

**FILED**

**JAN 25 2010**

**SECRETARY, BOARD OF  
OIL, GAS & MINING**

**BEFORE THE BOARD OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH**

IN THE MATTER OF THE REQUEST FOR AGENCY ACTION OF WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC FOR AN ORDER AUTHORIZING THE FLARING AND VENTING OF GAS IN EXCESS OF THE AMOUNTS ALLOWED UNDER UTAH ADMIN. CODE RULE R649-3-20(1.1) FROM THE WOLVERINE FEDERAL ARAPIEN VALLEY 24-1 AND PROVIDENCE FEDERAL 24-4 WELLS LOCATED IN THE W½ OF SECTION 24, TOWNSHIP 20 SOUTH, RANGE 1 EAST, SLM, SANPETE COUNTY, UTAH

**PETITIONER'S EXHIBITS**

Docket No. 2010-010

Cause No. 269-01

Pursuant to Utah Admin. Code Rule R641-105-500, Petitioner Wolverine Gas and Oil Company of Utah, LLC ("Wolverine"), by and through its counsel of record, Beatty & Wozniak, P.C., hereby respectfully submits the following exhibits intended to be offered into evidence in support of its Request for Agency Action ("RAA") at the February 24, 2010 hearing on this cause:

**EXHIBIT "A"** – Wolverine's witnesses' resumes (collectively 5 pages):

- Richard D. Moritz, Esq. – Vice President – Land
- Emily Hartwick – Geologist
- Thomas W. Zadick – Consulting Reservoir Engineer
- Edward A. Higuera – Manager – Development and Petroleum Engineer

**EXHIBIT "B"** – Regional Location Plat of Wolverine Unit Area and Covenant and Providence Fields located therein (1 page).

**EXHIBIT "C"** – Lease and Well Location Plat (1 page).

**EXHIBIT "D"** – Pictures of Well Surface Locations (1 page).

- EXHIBIT “E”** – True and correct copies of return receipts indicating, as of January 22, 2010, receipt of a copy of the RAA by parties identified in the Certificate of Mailing dated January 13, 2010 on file in this cause (to be supplemented prior to hearing) (collectively 8 pages).
- EXHIBIT “F”** – Structural Configuration reflecting relation of Navajo 1 and Navajo 2 (1 page).
- EXHIBIT “G”** – Log Analyses/Reservoir Properties for Navajo 1 and Navajo 2 (collectively 2 pages).
- EXHIBIT “H”** – True and correct copies of the administrative approvals of the Bureau of Land Management and the Utah Division of Oil, Gas and Mining for additional testing and flaring and venting pursuant to NTL-4A and Utah Admin. Code Rule R649-3-19(3) and R649-3-20 (1.2) and (3) (previously submitted as Exhibit “1” to the RAA) (collectively 12 pages).
- EXHIBIT “I”** – Test Result Summaries for Navajo 1 and Navajo 2 (collectively 2 pages).
- EXHIBIT “J”** – Gas Analyses of the Navajo 1 and 2 (previously submitted as Exhibit “2” to the RAA) (collectively 2 pages).
- EXHIBIT “K”** – Hydrocarbons-in-Place Estimate (1 page).
- EXHIBIT “L”** – Reservoir Modeling Objective Summary (1 page).
- EXHIBIT “M”** – Relative Permiabilities (collectively 2 pages).
- EXHIBIT “N”** – Solution GOR and Formation Volume Factor (1 page).
- EXHIBIT “O”** – Oil Density and Viscosity (1 page).
- EXHIBIT “P”** – 24-1 and 24-4 Well Pressure-Transient Analyses (“PTA’s”) (collectively 2 pages).
- EXHIBIT “Q”** – Reservoir Modeling Conclusions and Recommendations (1 page).

- EXHIBIT “R”** – Basis for Gas Disposition Economic Evaluation (1 page).
- EXHIBIT “S”** – Two Well Model Forecast (1 page).
- EXHIBIT “T”** – Flaring and Venting Option Economics (1 page).
- EXHIBIT “U”** – Re-injection Option Economics (1 page).
- EXHIBIT “V”** – Treatment, Transportation and Sale Option Economics (1 page).

Respectfully submitted this 25<sup>th</sup> day of January, 2010.

**BEATTY & WOZNIAK, P.C.**

By: 

Frederick M. MacDonald

6925 Union Park Center, Suite 525

Cottonwood Heights, UT 84047

Telephone: (801) 566-8446

Facsimile: (801) 566-8447

E-Mail: FMacDonald@bwenergyllaw.com

Attorneys for Petitioner Wolverine Gas and Oil  
Company of Utah, LLC

**RICHARD MORITZ**  
**Vice President – Land**

Mr. Richard D. Moritz is Vice President – Land for Wolverine Gas and Oil Corporation. He is also a Member of Wolverine Gas and Oil Company of Utah, LLC, the Operating Company for the Wolverine Federal Unit. He has been with the company for over 25 years. Mr. Moritz received his B.A. in Political Science and Economics from Hope College in 1976 and his J.D. from Thomas M. Cooley Law School in Michigan in 1980. Mr. Moritz is recognized as an expert in Petroleum Land Management and has testified on numerous occasions before the Oil and Gas Advisory Committee in Michigan. He is responsible for supervising and coordinating the Wolverine Federal Unit in Utah with the Bureau of Land Management. He has negotiated and drafted agreements, including Joint Operating Agreements, Farmouts, and Purchase and Sale Agreements, covering lands within Utah, Wyoming, Michigan, and numerous other states.

Mr. Moritz is a member of the American Bar Association, the Michigan Bar Association, and the Grand Rapids Bar Association and has served on the Standing Committee of the Michigan Bar Association for Oil and Gas Law and on the Real Property Law Section Committee on Oil and Gas for 30 years. He is a member of the American Association of Petroleum Landmen, the Michigan Association of Petroleum Landmen, the Michigan Oil and Gas Association, and several Rocky Mountain oil and gas associations. He is also a past member of the Board of Directors of the Michigan Oil and Gas Association. He is a frequent speaker for the Michigan Oil and Gas Association, the Michigan Association of Petroleum Landmen, and the Institute for Continuing Education in Michigan.

# **EMILY HARTWICK**

## **Geologist**

### Education

- 2007 - -2010 Western Michigan University, Kalamazoo MI 49908
  - Master of Science in Geology in May 2010
- 2001 – 2005 Central Michigan University, Mt. Pleasant MI 48804
  - Bachelor of Science in Geology in December 2005
- 1998 – 2001 Cass City High School, Cass City MI 48726

### Additional Instruction

- AAPG Structural Geology Fall Education Conference, Houston TX, December 2008
- AAPG Principles of Reservoir Characterization course, Houston TX, April 2008
- PetroSkills Well Log Interpretation course, Houston TX, March 2006
- GESXplorer and PRIZM software course, Grand Rapids MI, January 2006
- Geologic Field Course through University of Missouri-Columbia, May-July 2005
- Fluid Inclusion Short Course through University of Kansas, June 2004

### Associations

- Society of Petrophysicists and Well Log Analysts, member since 2009
- American Association of Petroleum Geologists, member since 2006
- Geologic Society of America, member since 2004
- Secretary, Student Chapter of American Institute of Professional Geologists 2003-2005

### Work Experience

- January 2006 – Current: Geologist for Wolverine Gas and Oil Corporation, Grand Rapids MI
- July – December 2005: Intern with Wolverine Gas and Oil Corporation, Grand Rapids MI
- August 2003 – May 2005: Teaching Assistant for Geology 101/130 at Central Michigan University

# **Thomas William Zadick**

**B.S. and M.S. in Chemical Engineering  
Registered Professional Engineer**

**Address: 4904 Melrose Park Drive  
Colleyville, Texas 76034  
e-mail: [twzpe@twzadickpe.com](mailto:twzpe@twzadickpe.com)**

**Phone: (817) 684-1104 (O)  
(817) 354-1836 (H)**

**A results-oriented engineer and project manager with over 30 years experience in reservoir engineering, formation evaluations and economic analysis.**

## **EXPERIENCE PROFILE**

**THOMAS W. ZADICK, P.E.**

**April 1, 1999 to present**

**Consulting reservoir engineering services specializing in fluid flow through porous media, complex-hydrocarbon phase behavior, recovery enhancement, well-test analysis and process optimization. Licensed user of GCOMP, PHSSIM, COMET3 and GASMOD reservoir simulation models and OFM, SAPHIR, TOPAZ AND RTA well test models. Competent user of OGRE, PEEP, RPI, IMEX, CMGProp, and Office Pro 2000. For more information see <http://www.twzadickpe.com/>**

**UNION PACIFIC RESOURCES COMPANY**

**October 1976 to March 31, 1999**

**Senior Engineering Advisor and Senior Scientist**

**April 1994 to March 31, 1999**

**Conducted special studies and evaluated reservoir performance for internal clients. These projects include existing EOR projects, new EOR projects, acquisitions and bid analysis, optimal plans of depletion and research into new or improved methods for EOR. Areas of specialized expertise are fluid flow in porous media, enhanced recovery in conventional and dual porosity reservoirs, hydrocarbon fluid behavior and geochemical methods for testing reservoir continuity.**

**Awarded: W. L. Adams Petrotech Fellow and promoted to Senior Scientist in 1995.**

**Senior Engineering Advisor**

**February 1989 to April 1994**

**Supervised the Northern Engineering group (7 engineers and 2 technical aides). Responsible for prospect and project analysis, formation evaluations, stimulation design and optimization, reservoir analysis, unitization, enhanced recovery and acquisitions. Project manager for three major drilling programs that were completed ahead of schedule and under Budget. Responsible for developing annual Budget, Long Range Plan and Reserves report.**

**Regional Engineering Manager**

**May 1986 to February 1989**

**Supervised 6 direct reports including 4 supervisors and 39 professionals in the Denver Region Engineering department. Responsibilities included project analysis, prospect support, drilling, formation evaluations, stimulation, reservoir analysis, process design and plant optimization. Coordinated all hiring, training and professional development for all engineers in the region. Responsible for developing and implementing annual Budget, Long Range Plan and Reserves report.**

**Regional Production Manager**

**May 1985 to May 1986**

**Supervised 10 professionals. Monitored all production operations, engineering, acquisitions and drilling for three operating Divisions in the Denver Region. Directed the hiring, training and development of Production Department personnel. Reviewed and modified all Business Cycle reports to insure accuracy, completeness and consistency within the Region.**

**Division Production Manager**

February 1983 to May 1985

Supervised 3 direct reports. Managed the engineering, drilling and production operations for the Pacific Division with 225 employees and 11,200 BOPD. Implemented a large-scale immiscible CO<sub>2</sub> pilot. Designed and implemented a tertiary steamflood pilot using DOE funding. Evaluated and recommended a major steamflood/cogeneration project to management. WIO representative for a major OCS discovery.

**Chief Engineer and Division Engineer**

January 1980 to February 1983

**Supervisor Reservoir Engineering**

August 1977 to December 1979

**Senior Reservoir Engineer**

October 1976 to July 1977

Managed and supervised operations and conducted reservoir analysis for properties in the Denver Region. Utilized a 3-dimensional compositional simulator to model the performance of a rich retrograde-condensate reservoir where pressure is being maintained by gas injection. Developed an optimal plan of depletion for several major Overthrust discoveries, several of which required full pressure maintenance to optimize hydrocarbon recovery.

**SHELL OIL COMPANY**

March 1971 to October 1976

**Senior Reservoir/Reservoir Engineer**

1971 to 1976

Evaluated secondary and tertiary potential for Michigan oil and gas-condensate reservoirs. Developed an optimal producing strategy for Michigan gas fields. Directed two Micellar-polymer pilot floods in Illinois and evaluated performance of a CO<sub>2</sub> flood in West Texas. As a member of a project team evaluated the feasibility of infill drilling in a large West Texas Carbonate waterflood. Developed and supervised laboratory testing of CO<sub>2</sub> process for large West Texas Carbonate field.

**EDUCATION****Montana State University, Bozeman, Montana**

Graduated with highest honors; Phi Eta Sigma, Tau Beta Pi and Phi Kappa Phi

B.S. in Chemical Engineering in 1969 (GPA 3.6/4.0)

M.S. in Chemical Engineering in 1971 (GPA 4.0/4.0)

Thesis: The Catalytic Reduction of Calcium Sulfate

**INDUSTRY SCHOOLS**

- \* Phase I, II and III schools in Production, Formations Evaluations, Reservoir Engineering, Economics, Enhanced Recovery and Numerical Simulation at Shell Development
- \* Industry and in-house schools in economics, simulation, geostatistics and supervision
- \* Executive Mineral Program at Colorado School of Mines in 1981
- \* Penn State Executive Management Program in 1986

**PERSONAL DATA**

Date of birth: July 22, 1947

Health: Excellent

Place of Birth: Monte Vista, Colorado

Marital Status: Married

Professional Activities: SPE of AIME, Fort Worth SPE Board of Directors, 2003 Program Chair, 2004 Section Chair, SPE Professional Registration Committee, Chair of SPE Reservoir Engineering Award Committee, MSU College of Engineering Industry Advisory Panel, Fort Worth Wildcatters.

Hobbies: Sports, Jogging, Photography, and Backpacking.

**A MORE DETAILED RESUME, REFERENCES AND PUBLICATIONS AVAILABLE UPON REQUEST**

## **EDWARD A. HIGUERA, P.E.**

### **Manager-Development**

Mr. Edward A. Higuera is Manager-Development for Wolverine Gas and Oil Corporation. Mr. Higuera received his B.S Petroleum Engineering from Texas A&M University in 1985. He is a registered Professional Engineer in the State of Michigan.

Mr. Higuera started his career in the oil industry with Conoco, Inc. During his career, he has worked on projects in Oklahoma, Michigan, Wyoming, Ohio, and Utah. He has been with Wolverine for the last five years. In his current capacity, Mr. Higuera is responsible for engineering and operations, which includes permitting, drilling operations, completions, facility projects, and field management. He is a member of the Society of Petroleum Engineers.

#### **Continuing Education/Industry Short-courses**

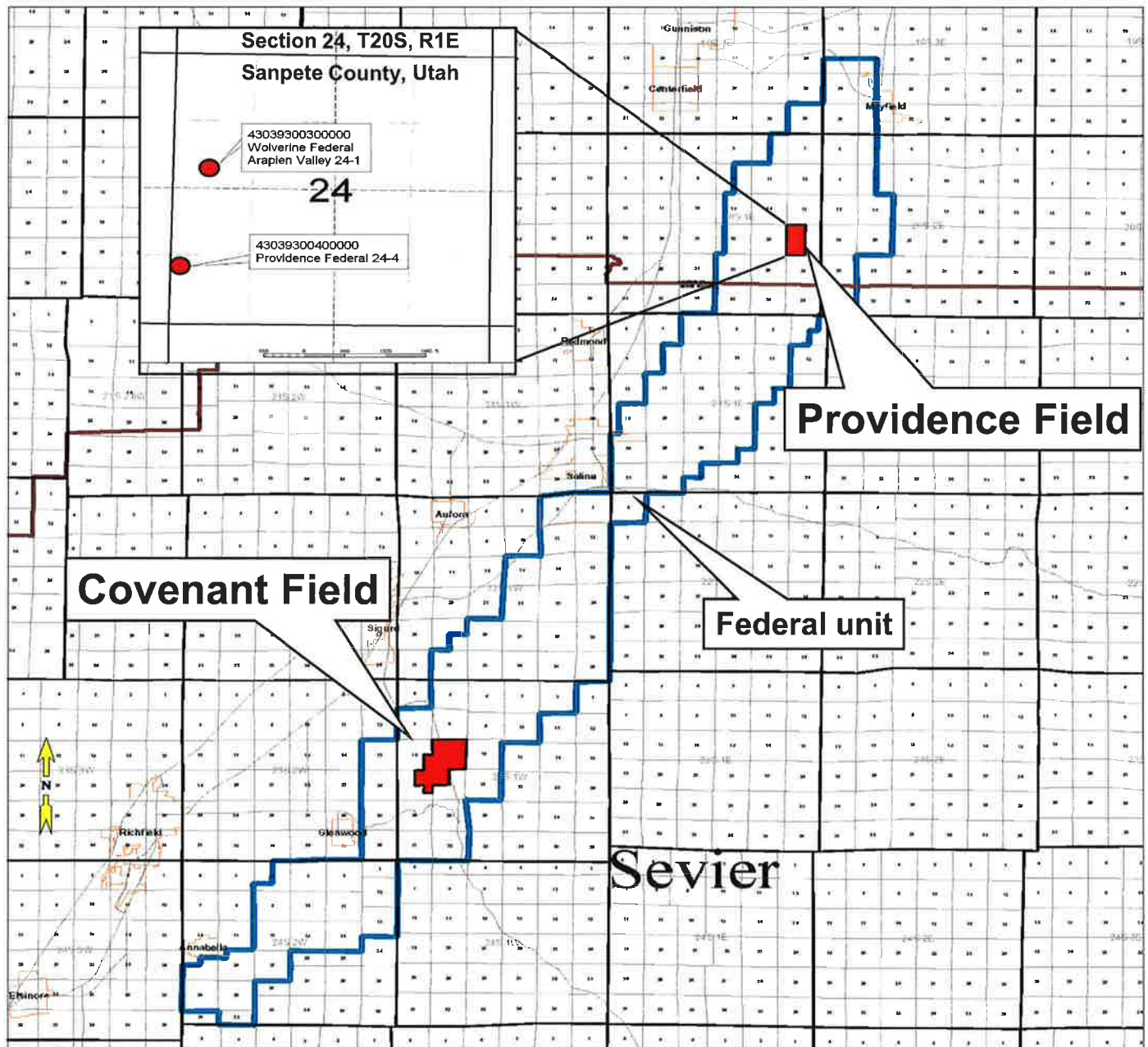
- Reservoir Engineering-Fluid Injection
- Reservoir Management for Production Geologist & Reservoir Engineers
- Production Systems Design
- Waterflood Systems Engineering & Operations
- Reciprocating Compressors
- Gas Production Engineering & Operations
- Matrix Acidizing
- Hydraulic Fracturing
- Completion Operations for Onsite Supervision
- Horizontal Well Applications
- Corrosion and Materials for Production Operations
- Electrical Submersible Pumps
- Water Treatment Principles & Design, University of Oklahoma
- Hydrology, Western Michigan University
- Groundwater Contamination, Western Michigan University
- Remediation Engineering, Western Michigan University


#### **Professional Affiliations**

Registered Professional Engineer in Michigan  
Society of Petroleum Engineers, member

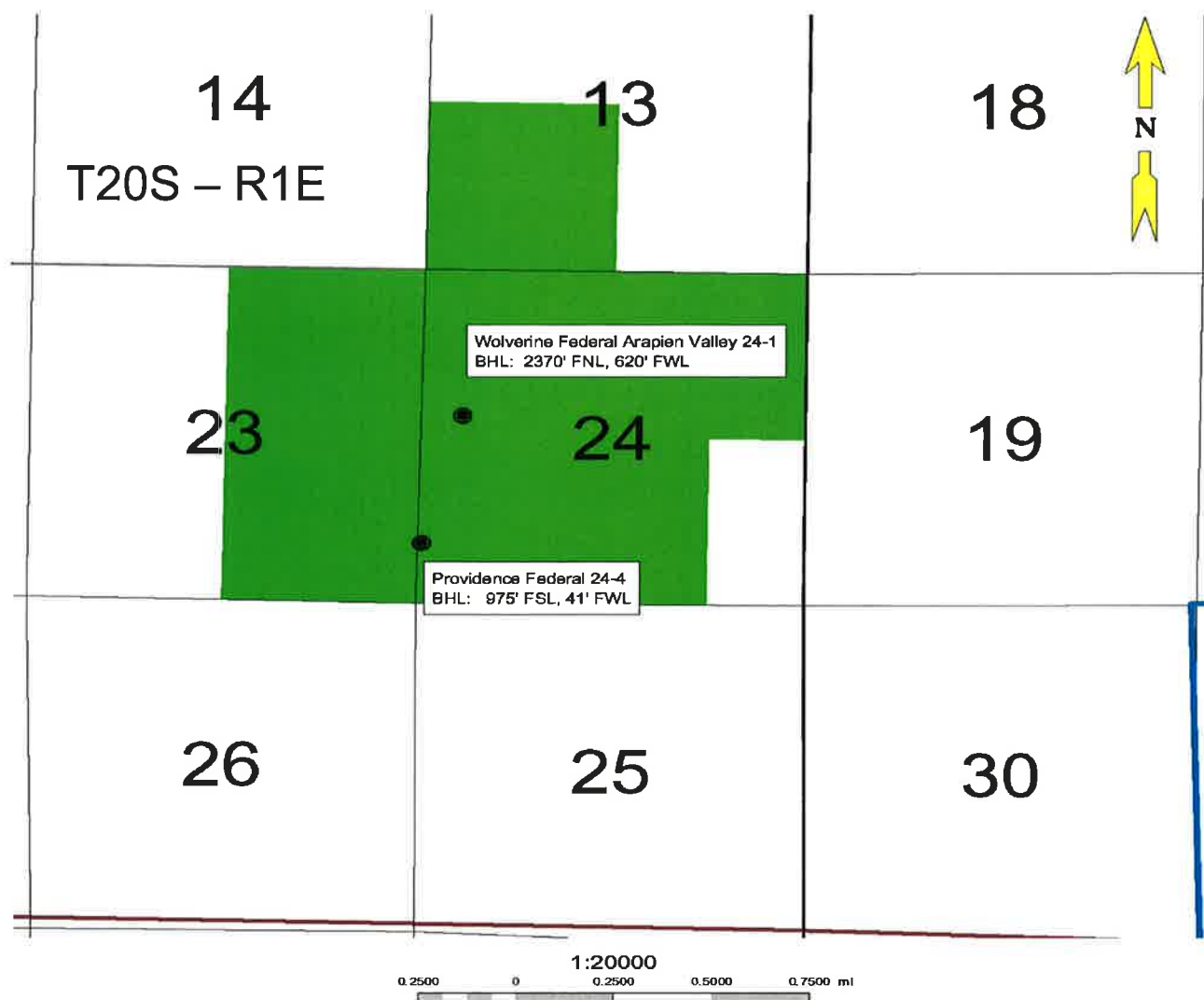


# Regional Location Map



	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMP AU, N.W. GRAND RAPIDS, MI 49503-2616 (616) 458-1150
	<b>EXHIBIT <u>B</u></b>
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

# Lease and Well Location Plat



HBP LEASE - BLM UTU-80907  
(L02684)



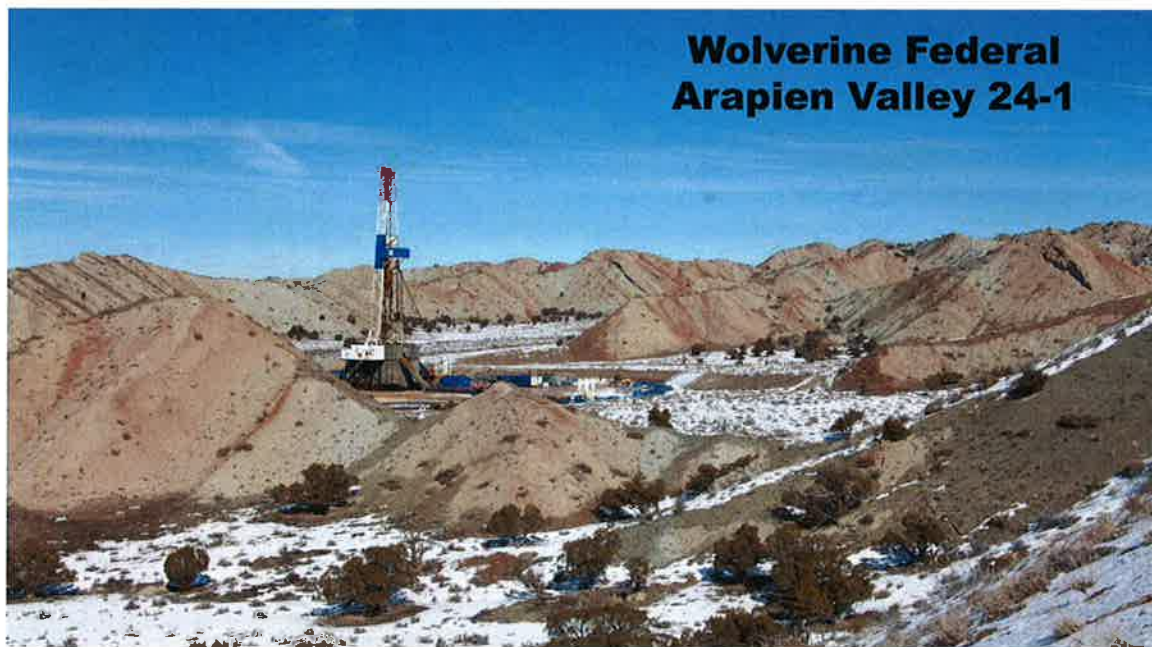
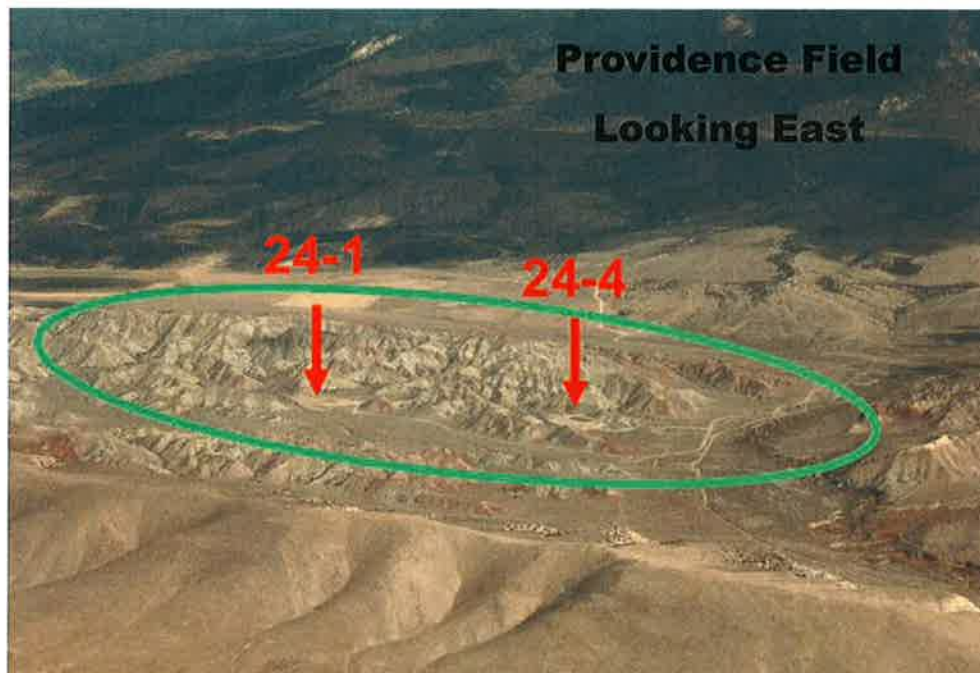
**WOLVERINE GAS & OIL Company of Utah, LLC**  
(Operator)  
*Energy Exploration in Partnership with the Environment*  
ONE RIVERFRONT PLAZA  
55 CAMP AU, N.W.  
GRAND RAPIDS, MI 49503-2616  
(616) 458-1150

EXHIBIT C

Date: 1/15/2010

Docket No. 2010-010; Cause No. 269-01

# Surface View of Wells



	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> <small>(Operator)</small> <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMPAU, T1 W GRAND RAPIDS, MI 49503-2616 (616) 458-1150
<b>EXHIBIT <u>D</u></b>	
<small>Date: 1/15/2010</small>	<small>Docket No. 2010-010; Cause No. 269-01</small>



**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

DLI Utah, LLC  
1144 Idema S.E.  
East Grand Rapids, MI 49506

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1811

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-154

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X Susan K Lewis☐ Agent☐ Addressee

B. Received by (Printed Name)

SUSAN K LEWIS

C. Date of Delivery

1-16-10D. Is delivery address different from Item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Bureau of Land Management  
Richfield Field Office  
Attn: Stan Andersen  
150 East 900 North  
Richfield, UT 84701

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1873

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-154

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X Sandy K Jenkins☒ Agent☐ Addressee

B. Received by (Printed Name)

Sandy K Jenkins

C. Date of Delivery

1-19D. Is delivery address different from Item 1? ☐ YesIf YES, enter delivery address below: ☒ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Bureau of Land Management  
Utah State Office  
Attn: Becky J. Hammond  
P.O. Box 45155  
Salt Lake City, UT 84145-0155

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1880

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-154

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X Michael Polz☒ Agent☐ Addressee

B. Received by (Printed Name)

Michael Polz

C. Date of Delivery

1-15-10D. Is delivery address different from Item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**EXHIBIT E**

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Global Asset Management – Salina 3,  
LLC  
P.O. Box 158  
Grandville, MI 49468-0158

2. Article Number  
(Transfer from service label)

7007 0710 0002 1125 1705

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Anna Olson*☐ Agent  
☐ Address

B. Received by (Printed Name)

*Helene Bardolph*

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.4. Restricted Delivery? (Extra Fee) ☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Heritage Oil and Gas, LLC  
One Riverfront Plaza  
55 Campau N.W.  
Grand Rapids, MI 49503-2616

2. Article Number  
(Transfer from service label)

7007 0710 0002 1125 2504

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-154

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Helene Bardolph*☐ Agent  
☐ Address

B. Received by (Printed Name)

*Helene Bardolph*

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.4. Restricted Delivery? (Extra Fee) ☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Wolverine Gas and Oil Corporation  
One Riverfront Plaza  
55 Campau N.W.  
Grand Rapids, MI 49503-2616

2. Article Number  
(Transfer from service label)

7007 0710 0002 1125 1866

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-154

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Helene Bardolph*☐ Agent  
☐ Address

B. Received by (Printed Name)

*Helene Bardolph*

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.4. Restricted Delivery? (Extra Fee) ☐ Yes

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Global Asset Management – Salina, LLC  
P.O. Box 158  
Grandville, MI 49468-0158

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1859

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

Diane Olson

☐ Agent☐ Address

B. Received by (Printed Name)

Diane Olson

C. Date of Delivery

01-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Francisca C. & John P. Vrona,  
One Riverfront Plaza  
55 Campau N.W.  
Grand Rapids, MI 49503

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1743

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

Helen Bardot

☐ Agent☐ Address

B. Received by (Printed Name)

Helen Bardot

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

North Ridge Capital, L.L.C.  
One Riverfront Plaza  
55 Campau N.W.  
Grand Rapids, MI 49503

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 2412

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

Helen Bardot

☐ Agent☐ Address

B. Received by (Printed Name)

Helen Bardot

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

**SENDER: COMPLETE THIS SECTION**

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Legacy Energy II, LLC  
277 S. Rose Street, Suite 3300  
Kalamazoo, MI 49007-4722

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 5017

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

☐ Agent  
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

1/19/10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Global Asset Management -- Salina 4,  
LLC  
P.O. Box 158  
Grandville, MI 49468-0158

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 5055

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

☐ Agent  
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

01-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Global Asset Management -- Salina 2,  
LLC  
P.O. Box 158  
Grandville, MI 49468-0158

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 5048

PS Form 3811, February 2004

Domestic Return Receipt

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

☐ Agent  
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

**SENDER: COMPLETE THIS SECTION**

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Richard D. & Margaret M. Moritz,  
One Riverfront Plaza  
55 Campau N.W.  
Grand Rapids, MI 49503  
**5506.34**

2. Article Number  
(Transfer from service label)

7007 0710 0002 1125 1774

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

*Helene Bardolph*☐ Agent☐ Addressee

B. Received by (Printed Name)

*Helene Bardolph*

C. Date of Delivery

*1-17-10*D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

OXY USA, Inc.  
5 Greenway Plaza  
Houston, TX 77046-0504

2. Article Number  
(Transfer from service label)

7007 0710 0002 1125 2474

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

*Rene Camacho*☐ Agent☐ Addressee

B. Received by (Printed Name)

*Rene Camacho*

C. Date of Delivery

*1-19-10*D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

RD Partners Texas III, LLC  
2204 Timberlock Place, Suite 285  
The Woodlands, TX 77380

2. Article Number  
(Transfer from service label)

7007 0710 0002 1125 1804

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

*RD Hash*☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

*1-19-10*D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes



**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

RD Partners Texas II, LLC  
2204 Timberlock Place, Suite 285  
The Woodlands, TX 77380

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1835

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

RDP Salina Partners, LLC  
2204 Timberlock Place, Suite 285  
The Woodlands, TX 77380

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1712

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Jacob Mast  
396 Pinellas Bayway #11  
Tierra Verde, FL 33715

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1729

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

☐ Agent☒ Addressee

B. Received by (Printed Name)

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Penneco Exploration Company, LLC  
P.O. Box 300  
Delmont, PA 15626-0300

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1842

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

☐ Agent☐ Addressee

B. Received by (Printed Name)

Sarah T. Donaldson

C. Date of Delivery

1/19/2010

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Capelle Energy, LLC  
10195 Hanna Lake Rd., S.E.  
Caledonia, MI 49316

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 1750

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Westshore Capital, LLC  
One Riverfront Plaza  
55 Campau N.W.  
Grand Rapids, MI 49503-2616

2. Article Number

(Transfer from service label)

7007 0710 0002 1125 2498

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

☐ Agent☐ Addressee

B. Received by (Printed Name)

Helen Bardsley

C. Date of Delivery

1-19-10

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

**SENDER: COMPLETE THIS SECTION**

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

ORION Resources, LLC  
One Riverfront Plaza  
55 Campau N.W.  
Grand Rapids, MI 49503-2616

2. Article Number  
(Transfer from service label)

7007 0710 0002 1125 2481

PS Form 3811, February 2004

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Helene Burdette* ☐ Agent ☐ Addressee

B. Received by (Printed Name)

*Helene Burdette*

C. Date of Delivery

*1-19-10*D. Is delivery address different from Item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

Domestic Return Receipt

102595-02-M-15

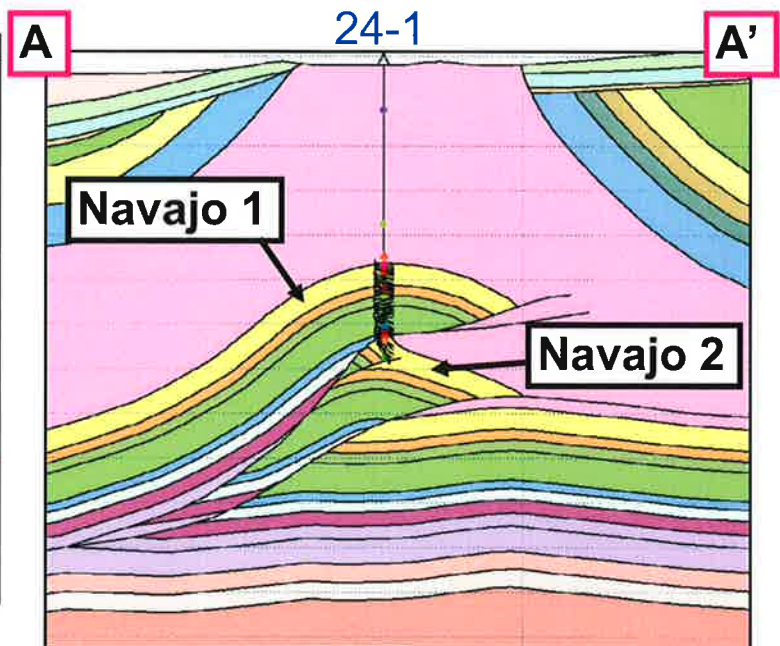
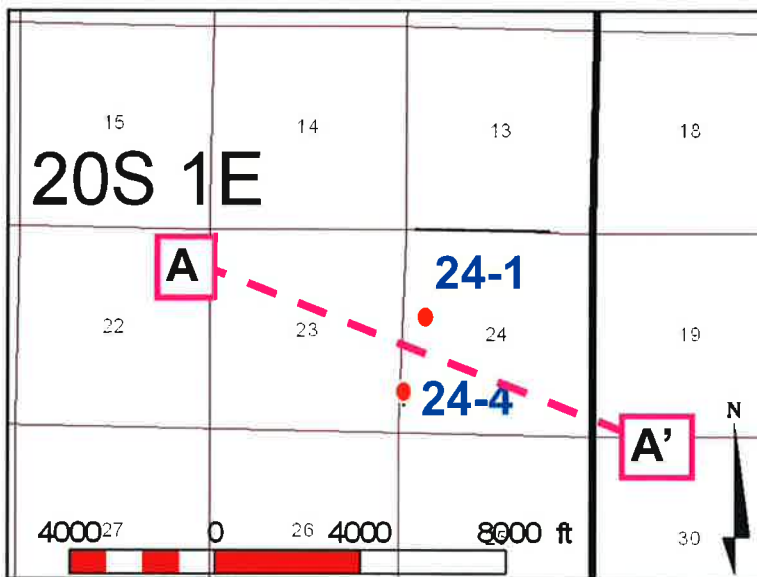
# Structural Configuration


## NAVAJO 1

- Structurally highest sheet in the Providence Field structure
- Fault-bend fold provides structural closure

## NAVAJO 2

- The Navajo 2 is an isolated horse block under the main fault-bend fold
- Fault seal occurs along the western edge of the Navajo 2




	<p><b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i></p> <p>ONE RIVERFRONT PLAZA 55 CAMPAU, N.W. GRAND RAPIDS, MI 49503-2616 (616) 458-1150</p>
<p align="center"><b>EXHIBIT <u>E</u></b></p>	
<p>Date: 1/15/2010</p>	<p>Docket No. 2010-010; Cause No. 269-01</p>



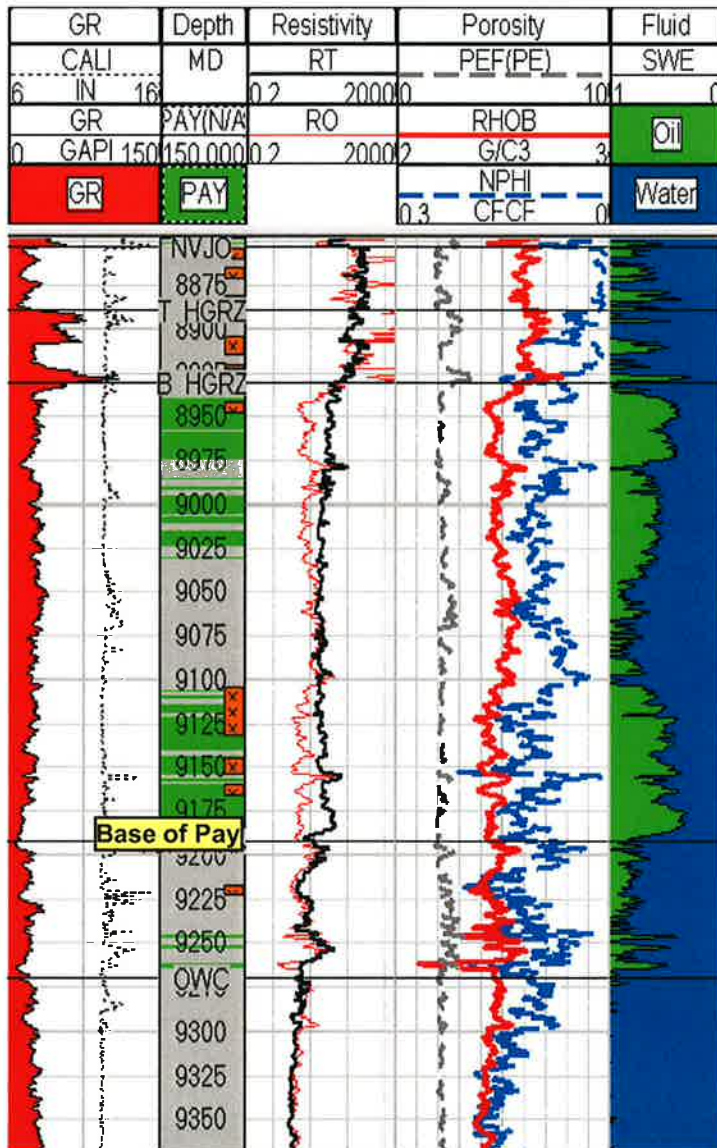
# Log Analysis/Reservoir Properties

## Navajo 1

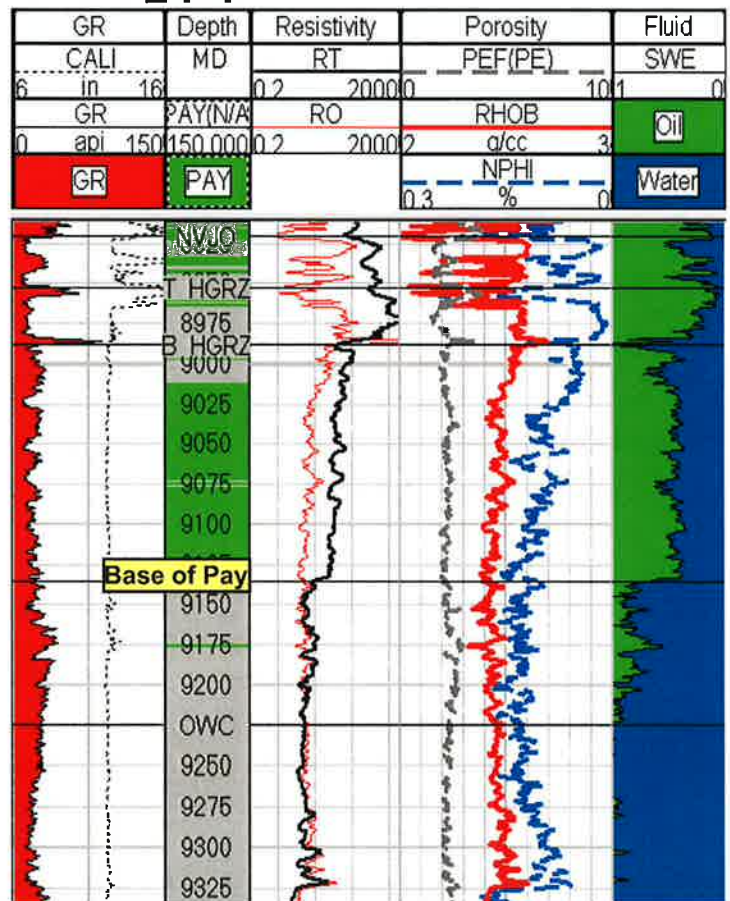
	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMP AVE, N.W. GRAND RAPIDS, MI 49503-2616 (616) 458-1150
	<b>EXHIBIT G1</b>
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

- Initial Reservoir Temperature: 193°F @ 8,940' TVD
- Initial Reservoir Pressure: 3545 psi
- Rw: 0.265 ohmm @ 70°F
- Average Porosity (core): 10.7%
- Average Permeability (core): 8 mD
- Petrophysical Parameters:
  - a=1, m=2, n=2
- Pay Cutoff Criteria:
  - Porosity > 7%
  - Sw < 60%

### 24-1



### 24-4



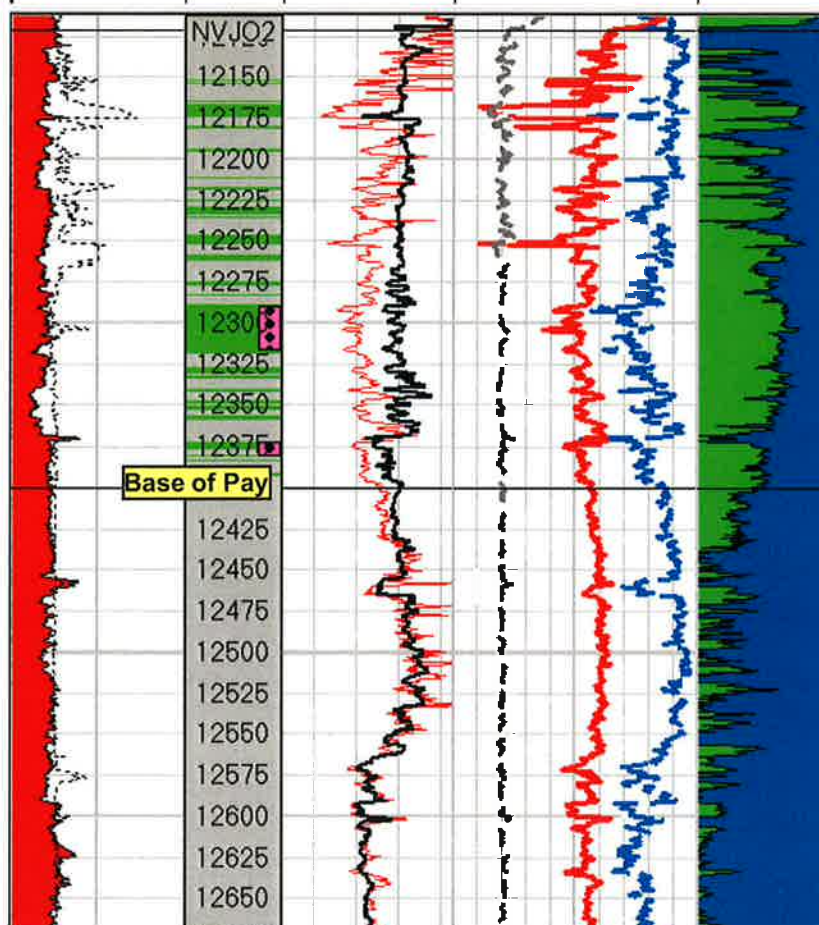
	Gross Feet above Base Pay (ft)	Gross Average Porosity (%)	Net Feet of Pay (ft)	Net/Gross Ratio (%)	Net Average Porosity (%)	Net Average Sw (%)
AV 24-1	261.5	10.3	134	51.2	12.1	49.1
PF 24-4	148.5	10.8	122.5	82.5	11.7	43.2

# Log Analysis/Reservoir Properties

## Navajo 2

24-1

GR	Depth	Resistivity	Porosity	Fluid
CALI	MD	RT	PEF(PE)	SWE
6 IN 16		0.2 20000	10.1	0
GR	PAY	RO	RHOB	Oil
0 GAPI 150		0.2 20000	G/C3 3	
GR			NPHI	Water
			CFCE	



- Initial Reservoir Temperature: 244 °F @ 12,300' TVD
- Initial Reservoir Pressure: 4,930 psi
- $R_w$ : 0.265 ohmm @ 70°F
- Average Porosity (core): 5.5 %
- Average Permeability (core): <3.6 mD
- Petrophysical Parameters:
  - $a = 1$
  - $m = 2$
  - $n = 2$
- Pay Cutoff Criteria:
  - Porosity > 7%
  - $S_w < 60\%$

	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMPAU, N.W. GRAND RAPIDS, MI 49502-2616 (616) 459-1150
<b>EXHIBIT G2</b>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

	Gross Feet above Base Pay (ft)	Gross Average Porosity (%)	Net Feet of Pay (ft)	Net/Gross Ratio (%)	Net Average Porosity (%)	Net Average Sw (%)
AV 24-1	279	6.1	95.5	34.2	9.5	33.3
PF 24-4	0	-	0	-	-	-



**United States Department of the  
Interior**



**BUREAU OF LAND MANAGEMENT**  
Richfield Field Office  
150 East 900 North  
Richfield, Utah 84701  
<http://www.blm.gov>

IN REPLY REFER TO:  
3160  
UT050

October 14, 2008

Ellis Peterson  
Sr. Production Engineer  
Wolverine Gas and Oil company of Utah, LLC  
55 Campau NW  
Grand Rapids, Michigan 49503

Re: Well No. Wolverine Federal Arapien Valley 24-1  
SW $\frac{1}{4}$ NW $\frac{1}{4}$ , Sec. 24, T. 20 S., R. 1 E., SLB & M.  
Sevier County, Utah  
Lease No. U-80907, Unit No. U-80800X

Gentlemen:

This correspondence is in regard to the Sundry Notice submitted September 12, 2008, requesting continued testing with gas venting for the referenced well. After a review by this office, the request is approved.

If you have any other questions concerning this matter, please contact Pam Hart of this office at (435) 896-1590.

Sincerely,

Stan Andersen  
Supervisor Natural Resource  
Specialist

cc: UDOGM

**EXHIBIT H**



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

**SUNDRY NOTICES AND REPORTS ON WELLS**

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE- Other instructions on reverse side.**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. <b>UTU-80907</b>
2. Name of Operator <b>Wolverine Gas and Oil Company of Utah, LLC</b>		6. If Indian, Allottee or Tribe Name <b>NA</b>
3a. Address <b>55 Campau NW, Grand Rapids, MI 49503</b>	3b. Phone No. (include area code) <b>616-458-1150</b>	7. If Unit or CA/Agreement, Name and/or No. <b>Wolverine Unit</b>
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) <b>2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&amp;M</b>		8. Well Name and No. <b>Wolverine Federal Arapien Valley 24-1</b>
		9. API Well No. <b>43-039-30030</b>
		10. Field and Pool, or Exploratory Area <b>Wildcat</b>
		11. County or Parish, State <b>Sanpete County, Utah</b>

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <b>Continued testing</b>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<b>with gas venting</b>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

This is the discovery well for a new field with multiple potential oil accumulations. Extensive testing has been completed in several intervals of interest in Navajo1 and Navajo2 reservoirs during which a total of approximately 22 MMCF of gas have been vented/flared. There are two potentially productive but untested intervals remaining that require testing to confirm productivity and reservoir content, but an extension of the 30-day limit allowed by NTL-4a for flaring/venting of gas is necessary in order to complete this testing. A continuation of the initial flaring/venting period for testing this well for up to 20 additional days is therefore requested so testing operations of intervals at depths of 8942'-8948' and 8854'-8872' can be completed.

A wellbore schematic showing the current mechanical configuration and test results to date is included herewith.

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) <b>Ellis Peterson</b>		Title <b>Sr. Production Engineer</b>
Signature <i>Ellis Peterson</i>		Date <b>09/11/2008</b>

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by <i>Sha L. Anderson</i>	Title <b>SNRG</b>	Date <b>9-29-08</b>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office <b>BEAUFIELD FO</b>	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

*ORPL APPROVAL FROM A. M'KEE 9-26-08*

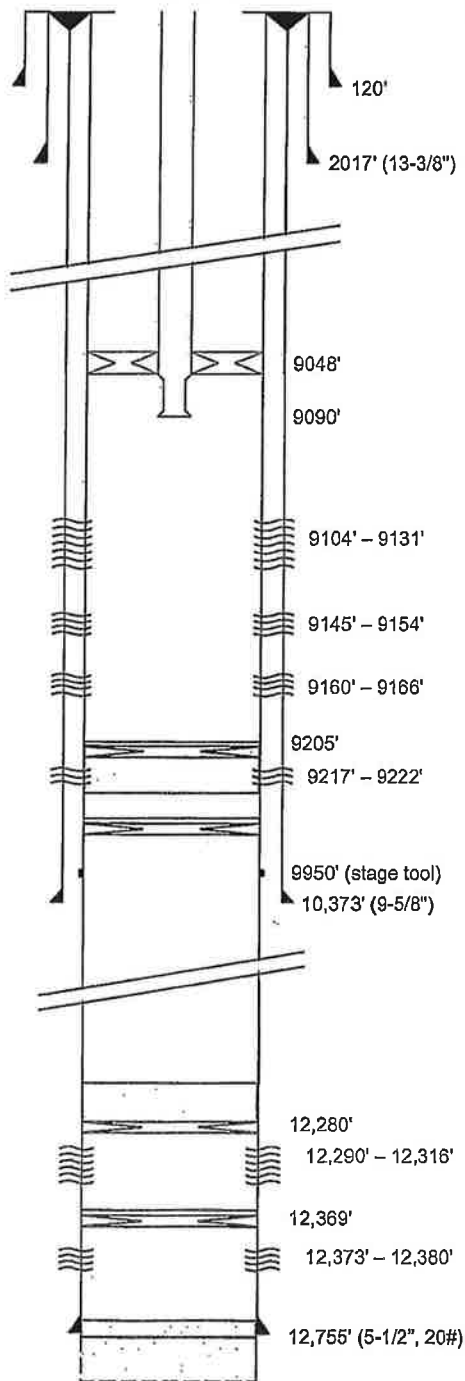




**Arapien Valley 24-1  
Providence Field  
API # 43-039-30030  
Sanpete County, Utah**

**(Not to Scale)**

Ground Elevation: 5,554'  
KB Elevation: 5,580'



TD = 13,050' KB

**Vertical Well**

Surface: 2331' FNL 549' FWL, SW NW, 24-20S-1E

Total Depth: 2370' FNL 620' FWL, SW NW, 24-20S-1E

**9104' - 9166':** Recovery: 2215 BO, 2910 BW, 9.7 MMCF  
Flashed Gas - 1.47 sp. gr., 30 ppm H<sub>2</sub>S, 79% CO<sub>2</sub>, 6% N<sub>2</sub>,  
349 BTU/scf  
Flashed Oil - 48 °API, 2380 scf/stb  
Final Rate: 128 BOPD, 217 BWPD, 740 MCFD w/ 330 psi FTP

**9104' - 9131':** Recovery: 964 BO, 941 BW, 6.3 MMCF  
Final Rate: 163 BOPD, 160 BWPD, 1183 MCFD w/ 380 psi FTP

**9145' - 9166':** Recovery: 550 BO, 129 BW, 1.5 MMCF  
Final Rate: 150 BOPD, 72 BWPD, 713 MCFD w/ 420 psi FTP

**9217' - 9222':** Swabbed and flowed 20 hours (recovered 22 BO,  
405 BW, gas not measured)

**12,290' - 12,316':** Recovery: 1338 BO, 122 BW, 4 MMCF  
Flashed Gas - 1.02 sp. gr., 0.08% H<sub>2</sub>S, 7% CO<sub>2</sub>, 9% N<sub>2</sub>,  
1437 BTU/scf  
Flashed Oil - 48 °API, 2380 scf/stb  
Final Rate: 160 BOPD, 20 BWPD, 473 MCFD w/ 200 psi FTP

**12,373' - 12,380':** Flowed oil and gas (no water) for 21 hours  
before equipment failure.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

**CONFIDENTIAL**

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

5. Lease Serial No.

UTU-80907

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA/Agreement, Name and/or No.

Wolverine Unit

8. Well Name and No.

Wolverine Federal Arapien Valley 24-1

9. API Well No.

43-039-30030

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

Sanpete County, Utah

**SUBMIT IN TRIPLICATE- Other instructions on reverse side.**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Wolverine Gas and Oil Company of Utah, LLC

3a. Address

55 Campau NW, Grand Rapids, MI 49503

3b. Phone No. (include area code)

616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

☐ Acidize

☐ Alter Casing

☐ Casing Repair

☐ Change Plans

☐ Convert to Injection

☐ Deepen

☐ Fracture Treat

☐ New Construction

☐ Plug and Abandon

☐ Plug Back

☐ Production (Start/Resume)

☐ Reclamation

☐ Recomplete

☐ Temporarily Abandon

☐ Water Disposal

☐ Water Shut-Off

☐ Well Integrity

☒ Other Continued testing  
with gas venting

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

This is the discovery well for a new field with multiple potential oil accumulations. Extensive testing has been completed in several intervals of interest in Navajo1 and Navajo2 reservoirs during which a total of approximately 22 MMCF of gas have been vented/flared. There are two potentially productive but untested intervals remaining that require testing to confirm productivity and reservoir content, but an extension of the 30-day limit allowed by NTL-4a for flaring/venting of gas is necessary in order to complete this testing. A continuation of the initial flaring/venting period for testing this well for up to 20 additional days is therefore requested so testing operations of intervals at depths of 8942'-8948' and 8854'-8872' can be completed.

A wellbore schematic showing the current mechanical configuration and test results to date is included herewith.

Accepted by the  
Utah Division of  
Oil, Gas and Mining

Date:

9/17/08

Federal Approval Of This  
Action Is Necessary

14. I hereby certify that the foregoing is true and correct.

Name (Printed/Typed)

Ellis Peterson

Title Sr. Production Engineer

Signature

*Ellis Peterson*

Date

09/11/2008

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**RECEIVED**

(Instructions on page 2)

SEP 15 2008

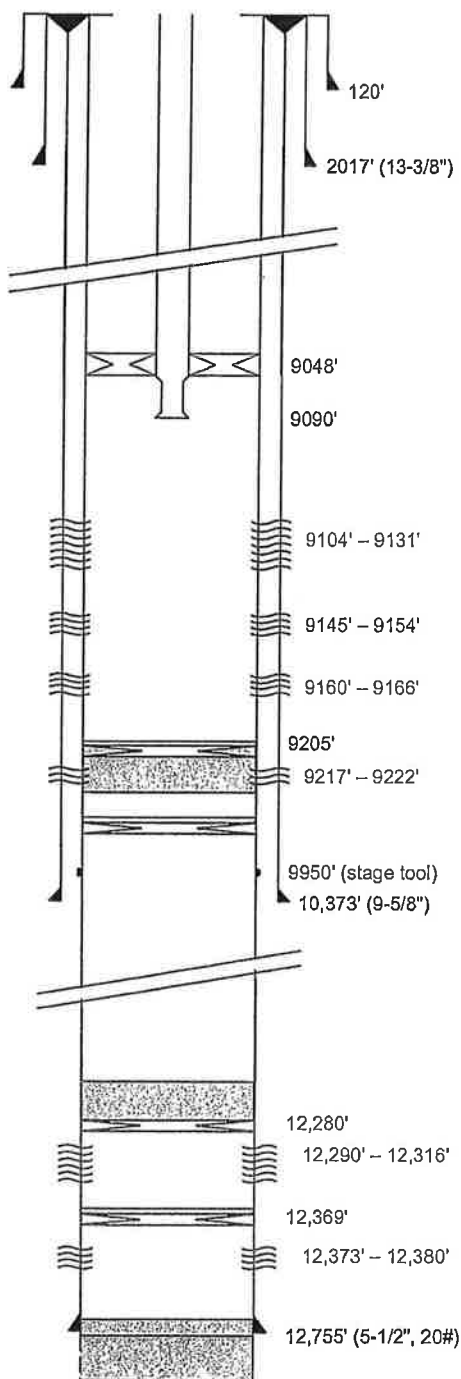
DIV. OF OIL, GAS & MINING



**Arapien Valley 24-1  
Providence Field  
API # 43-039-30030  
Sanpete County, Utah**

**(Not to Scale)**

Ground Elevation: 5,554'  
KB Elevation: 5,580'



**Vertical Well**

Surface: 2331' FNL 549' FWL, SW NW, 24-20S-1E  
Total Depth: 2370' FNL 620' FWL, SW NW, 24-20S-1E

**9104' - 9166':** Recovery: 2215 BO, 2910 BW, 9.7 MMCF  
Flashed Gas - 1.47 sp. gr., 30 ppm H<sub>2</sub>S, 79% CO<sub>2</sub>, 6% N<sub>2</sub>,  
349 BTU/scf  
Flashed Oil - 48 °API, 2380 scf/stb  
Final Rate: 128 BOPD, 217 BWPD, 740 MCFD w/ 330 psi FTP

**9104' - 9131':** Recovery: 964 BO, 941 BW, 6.3 MMCF  
Final Rate: 163 BOPD, 160 BWPD, 1183 MCFD w/ 380 psi FTP

**9145' - 9166':** Recovery: 550 BO, 129 BW, 1.5 MMCF  
Final Rate: 150 BOPD, 72 BWPD, 713 MCFD w/ 420 psi FTP

**9217' - 9222':** Swabbed and flowed 20 hours (recovered 22 BO,  
405 BW, gas not measured)

**12,290' - 12,316':** Recovery: 1338 BO, 122 BW, 4 MMCF  
Flashed Gas - 1.02 sp. gr., 0.08% H<sub>2</sub>S, 7% CO<sub>2</sub>, 9% N<sub>2</sub>,  
1437 BTU/scf  
Flashed Oil - 48 °API, 2380 scf/stb  
Final Rate: 160 BOPD, 20 BWPD, 473 MCFD w/ 200 psi FTP

**12,373' - 12,380':** Flowed oil and gas (no water) for 21 hours  
before equipment failure.

TD = 13,050' KB

CONFIDENTIAL

FORM 9

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907
2. NAME OF OPERATOR: Wolverine Gas and Oil Company of Utah, LLC		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA
3. ADDRESS OF OPERATOR: 55 Campau NW CITY Grand Rapids STATE MI ZIP 49503-2616		7. UNIT or CA AGREEMENT NAME: Wolverine Federal Unit
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331' FNL, 549' FWL		8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWNW 24 20S 1E S		9. API NUMBER: 4303930030
COUNTY: Sanpete		10. FIELD AND POOL, OR WILDCAT: Wildcat
STATE: UTAH		

## 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit In Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input checked="" type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

## CONTINUED CONFIDENTIAL STATUS REQUESTED

Approval is hereby requested to flare gas for a period of 60 days while production testing the Navajo2 Formation at the Wolverine Federal Arapien Valley 24-1 well. This is requested to establish stabilized producing rates and help determine commercially. Additional details are provided in the cover letter to this notice and in the attached Completion Summary and Results.

Attachments: Completion Summary and Results, Well Bore Schematic

NAME (PLEASE PRINT) Ellis M. Peterson TITLE Senior Production Engineer  
SIGNATURE *Ellis M. Peterson* DATE 10/21/2008

APPROVED BY THE STATE  
(This space for State use only)  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE: 11/3/08

BY: *[Signature]*

(5/2000)

\* 24-1-3-19 - necessary deliquidity test  
A flare stack should be employed during extended testing

Federal Approval Of This  
Action Is Necessary

RECEIVED

OCT 22 2008

CONFIDENTIAL

DIV. OF OIL, GAS &amp; MINING

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

## SUNDRY NOTICES AND REPORTS ON WELLS

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE- Other instructions on reverse side.**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. UTU-80907
2. Name of Operator Wolverine Gas and Oil Company of Utah, LLC		6. If Indian, Allottee or Tribe Name NA
3a. Address 55 Campau NW, Grand Rapids, MI 49503	3b. Phone No. (include area code) 616-458-1150	7. If Unit or CA/Agreement, Name and/or No. Wolverine Unit
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M		8. Well Name and No. Wolverine Federal Arapien Valley 24-1
		9. API Well No. 43-039-30030
		10. Field and Pool, or Exploratory Area Wildcat
		11. County or Parish, State Sanpeta County, Utah

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <b>Extended production</b>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<b>test with flaring gas</b>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Approval is hereby requested to flare gas for a period of 60 days while production testing the Navajo2 Formation at the Wolverine Federal Arapien Valley 24-1 well. This is requested to establish stabilized producing rates and help determine commercially. Additional details are provided in the cover letter to this notice and in the attached Completion Summary and Results.

Attachments: Completion Summary and Results, Well Bore Schematic, UDOGM Approval for Extended Flaring

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Ellis Peterson		Title Sr. Production Engineer
Signature <i>Ellis Peterson</i>		Date 11/10/2008

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by <i>Stan L. Paul</i>	Title SNRS	Date 11-20-08
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office <i>Richfield F.O.</i>	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**Conditions of Approval Attached**

Operator

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

5. Lease Serial No.  
UTU-80907

6. If Indian, Allottee or Tribe Name  
NA

7. If Unit or CA/Agreement, Name and/or No.  
Wolverine Unit

8. Well Name and No.  
Providence Federal 24-4

9. API Well No.  
43-039-30040

10. Field and Pool, or Exploratory Area  
Wildcat

11. County or Parish, State  
Sanpete County, Utah

**SUBMIT IN TRIPLICATE- Other instructions on reverse side.**

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
Wolverine Gas and Oil Company of Utah, LLC

3a. Address  
55 Campau NW, Grand Rapids, MI 49503

3b. Phone No. (include area code)  
616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
975' FSL, 41' FWL, Sec. 24, T20S, R1E, SLB&M

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Continued testing
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	with gas venting
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BJA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Providence Federal 24-4 is the first confirmation test to a new field discovery and it had apparent multiple potential hydrocarbon accumulations. Extensive testing has been completed on several intervals of interest in Moenkopi and Navajo1 formations during which no more than 10 MMCF of gas was vented/flared. After venting or flaring on 27 days while testing various perforation intervals, there is still need to produce the Navajo1 completion interval in order to collect down-hole fluid samples for laboratory testing. It then needs to continue producing for sufficient time as needed to acquire production data required for determining if the well can produce paying quantities. Because the 30-day limit allowed by NTL-4a for flaring/venting of gas will not allow adequate time to complete necessary testing of the well, a continuation of the initial flaring/venting period for up to 30 additional days is requested. Total production will be limited so that the total gas vented/flared inclusive of the gas produced to date does not exceed 50 MMCF. This well is located in an isolated area without infrastructure for shipping or processing the gas, and the gas being flared has low BTU and no market value in an unprocessed state.

A wellbore schematic showing the current mechanical configuration and a summary of completion work to date is included herewith.

**RECEIVED**

JUL 24 2009

14. I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)

Ellis Peterson

Title Sr. Production Engineer

Richfield BLM Field Office

Signature

*Ellis Peterson*

Date

07/22/2009

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

*Stan L. Hill*

Title

SNRS

Date

7-27-09

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Richfield Field Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

COA ATTACHED

**Condition of Approval:**

"A 30-day extension is granted for Wolverine Gas & Oil to vent/flare gas on the Providence 24-4 well through August 24, 2009. Should Wolverine need more time to vent or flare this well, an additional extension may be requested from the BLM Richfield Field Office."

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE- Other instructions on reverse side.**

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
Wolverine Gas and Oil Company of Utah, LLC

3a. Address  
55 Campau NW, Grand Rapids, MI 49503

3b. Phone No. (include area code)  
616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
975' FSL, 41' FWL, Sec. 24, T20S, R1E, SLB&M

5. Lease Serial No.  
UTU-80907

6. If Indian, Allottee or Tribe Name  
NA

7. If Unit or CA/Agreement, Name and/or No.  
Wolverine Unit

8. Well Name and No.  
Providence Federal 24-4

9. API Well No.  
43-039-30040

10. Field and Pool, or Exploratory Area  
Wildcat

11. County or Parish, State  
Sanpete County, Utah

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Continued testing with gas venting
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Providence Federal 24-4 is the first confirmation test to a new field discovery and it had apparent multiple potential hydrocarbon accumulations. Extensive testing has been completed on several intervals of interest in Moenkopi and Navajo1 formations during which no more than 10 MMCF of gas was vented/flared. After venting or flaring on 27 days while testing various perforation intervals, there is still need to produce the Navajo1 completion interval in order to collect down-hole fluid samples for laboratory testing. It then needs to continue producing for sufficient time as needed to acquire production data required for determining if the well can produce paying quantities. Because the 30-day limit allowed by NTL-4a for flaring/venting of gas will not allow adequate time to complete necessary testing of the well, a continuation of the initial flaring/venting period for up to 30 additional days is requested. Total production will be limited so that the total gas vented/flared inclusive of the gas produced to date does not exceed 50 MMCF. This well is located in an isolated area without infrastructure for shipping or processing the gas, and the gas being flared has low BTU and no market value in an unprocessed state.

A wellbore schematic showing the current mechanical configuration and a summary of completion work to date is included herewith.

14. I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)

Ellis Peterson

Title Sr. Production Engineer

Signature

*Ellis Peterson*

Date

07/22/2009

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

*Don M. Hight*

Title

Pet. Eng.

Date

7/30/09

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Dogon

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2) *\* Required Testing*

**RECEIVED**

**JUL 27 2009**

DIV. OF OIL, GAS & MINING



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

5. Lease Serial No.  
UTU-80907

6. If Indian, Allottee or Tribe Name  
NA

7. If Unit or CA/Agreement, Name and/or No.  
Wolverine Unit

8. Well Name and No.  
Providence Federal 24-4

9. API Well No.  
43-039-30040

10. Field and Pool, or Exploratory Area  
Wildcat

11. County or Parish, State  
Sanpete County, Utah

**SUBMIT IN TRIPLICATE- Other instructions on reverse side.**

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator  
Wolverine Gas and Oil Company of Utah, LLC

3a. Address  
55 Campau NW, Grand Rapids, MI 49503

3b. Phone No. (include area code)  
616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
975' FSL, 41' FWL, Sec. 24, T20S, R1E, SLB&M

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Continued testing with gas venting
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompletable horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Providence Federal 24-4 is the first confirmation test to a new field discovery having multiple hydrocarbon accumulations. Extensive testing has been completed at this well on several intervals of interest in the Moenkopi and Navajo1 formations. Because the 30-day limit allowed by NTL-4a for flaring/venting of gas did not allow adequate time to complete the necessary testing of this well, an extension to allow flaring was requested and granted through August 24, 2009. During the 30-day extension period, a pressure build-up test was conducted and followed by controlled flow conditioning and subsurface sampling, so the well was produced continually for only 17 days. Producing rates during flow testing have changed from initial daily volumes of 1262 MCF, 205 BO, and 11 BW with FTP of 405 psi to 747 MCF, 105 BO, and 46 BWP with FTP of 250 psi on August 21, 2009. Total gas production from the well through August 21, 2009 was 25.5 MMCF. Because potential commerciality needs to be established for this field based in part on extrapolation of stable performance of this well, continued flow testing with flaring through September 23, 2009 is requested to allow production trends to be better defined. Total production will be limited if necessary so that the total gas vented/flared inclusive of the gas produced to date does not exceed 50 MMCF, but it does not appear that this limit will be exceeded prior to September 23, 2009.

RECEIVED

14. I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)

Ellis Peterson

Signature

*Ellis Peterson*

Title Sr. Production Engineer

Date

08/24/2009

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

*Stan L. Aul*

Title

SNRS

Date

8/26/09

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Richfield Field Office

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(Instructions on page 2)

09PH00838

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

CONFIDENTIAL

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

## SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator Wolverine Gas and Oil Company of Utah, LLC

3a. Address  
55 Campau NW, Grand Rapids, MI 495033b. Phone No. (include area code)  
616-458-1150

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

975' FSL, 41' FWL, Sec. 24, T20S, R1E, SLB&amp;M

5. Lease Serial No.  
UTU-809076. If Indian, Allottee or Tribe Name  
NA7. If Unit or CA/Agreement, Name and/or No.  
Wolverine Unit8. Well Name and No.  
Providence Federal 24-49. API Well No.  
43-039-3004010. Field and Pool, or Exploratory Area  
Wildcat11. County or Parish, State  
Sanpete County, Utah

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Continued testing with gas venting
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Providence Federal 24-4 is the first confirmation test to a new field discovery having multiple hydrocarbon accumulations. Extensive testing has been completed at this well on several intervals of interest in the Moenkopi and Navajo1 formations. Because the 30-day limit allowed by NTL-4a for flaring/venting of gas did not allow adequate time to complete the necessary testing of this well, an extension to allow flaring was requested and granted through August 24, 2009. During the 30-day extension period, a pressure build-up test was conducted and followed by controlled flow conditioning and subsurface sampling, so the well was produced continually for only 17 days. Producing rates during flow testing have changed from initial daily volumes of 1262 MCF, 205 BO, and 11 BW with FTP of 405 psi to 747 MCF, 105 BO, and 46 BWPD with FTP of 250 psi on August 21, 2009. Total gas production from the well through August 21, 2009 was 25.5 MMCF. Because potential commerciality needs to be established for this field based in part on extrapolation of stable performance of this well, continued flow testing with flaring through September 23, 2009 is requested to allow production trends to be better defined. Total production will be limited if necessary so that the total gas vented/flared inclusive of the gas produced to date does not exceed 50 MMCF, but it does not appear that this limit will be exceeded prior to September 23, 2009.

RECEIVED

AUG 27 2009

DIV. OF OIL, GAS &amp; MINING

14. I hereby certify that the foregoing is true and correct
- 
- Name (Printed/Typed)

Ellis Peterson

Title Sr. Production Engineer

Signature

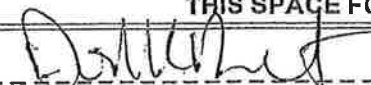


Date

08/24/2009

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by



Title Pet Eng.

Date 9/8/09

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Dog m

Federal Approval Of This  
Action Is Necessary

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

R549-3-19-3

# Test Results Summary

## Navajo 1

### 24-4 Perf Summary:

**4** 9014 - 9039 & Test W/ 9050 - 9066, flowed 205 BOPD, 11 BWPD, 1263 MCFD @ 405 FTP

**3** 9050 - 9066, flowed 60 BOPD, 0 BWPD, 500 MCFD

**2** 9078 - 9084, & 9092 - 9104, flowed 72 BOPD, 288 BWPD, Gas not measured, Sqzd

**1** 9117 - 9126, Swb 96 BO & W Tight, Sqzd

### 24-1 Perf Summary:

**5** 8854 - 8860, 8865 - 8871, 8881 - 8883, 8904 - 8914, 8920 - 8922, Tight Sqzd

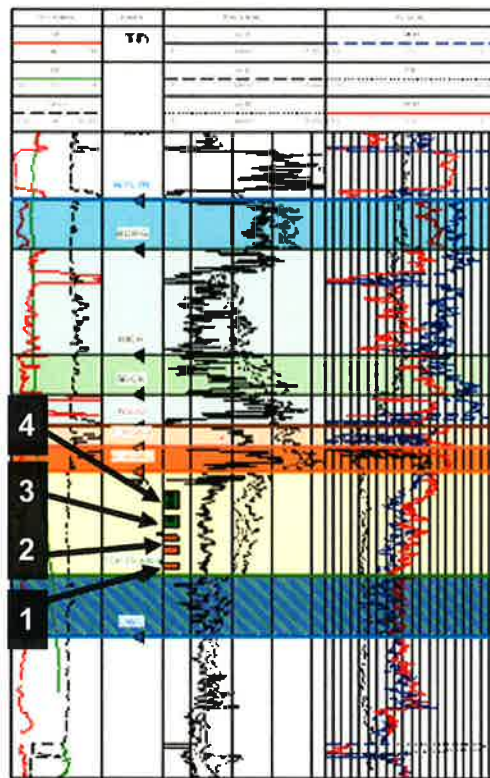
**4** 8942 - 8948, flowed 40 BOPD, 0 BWPD, & 354 MCFD Unstim., Sqzd

**3** 9104 - 9131, flowed 163 BOPD, 160 BWPD, & 1183 MCFD, Sqzd

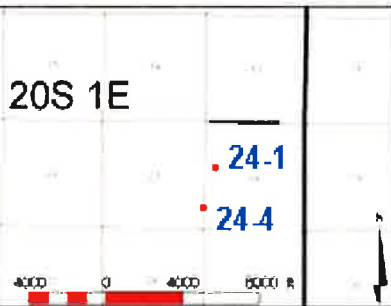
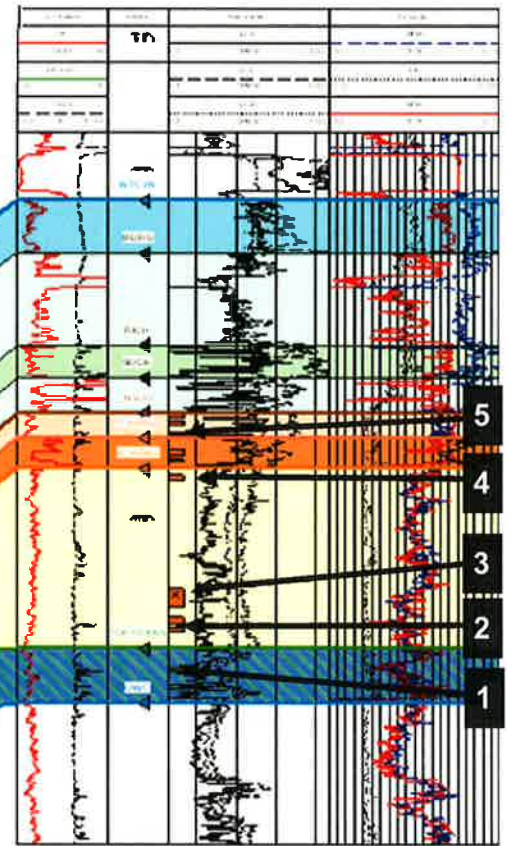
**2** 9145 - 9154 & 9160 - 9166, flowed 150 BOPD, 72 BWPD, & 713 MCFD, Sqzd

**1** 9217 - 9222, flowed 40 BOPD, 550 BWPD, Sqzd

**24-4**

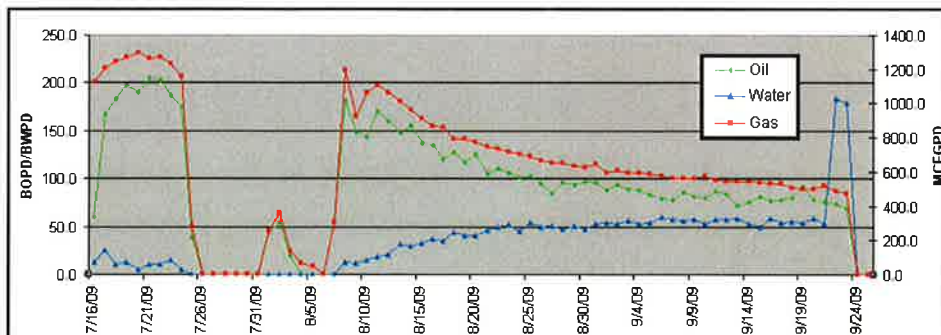



**24-1**



Cumulative Production From  
61-Day Flow Test  
Perf. Sets 3 & 4 of the 24-4  
7-16-09 to 9-25-09

6,597 BO 44,738 MCFG 2,538 BW



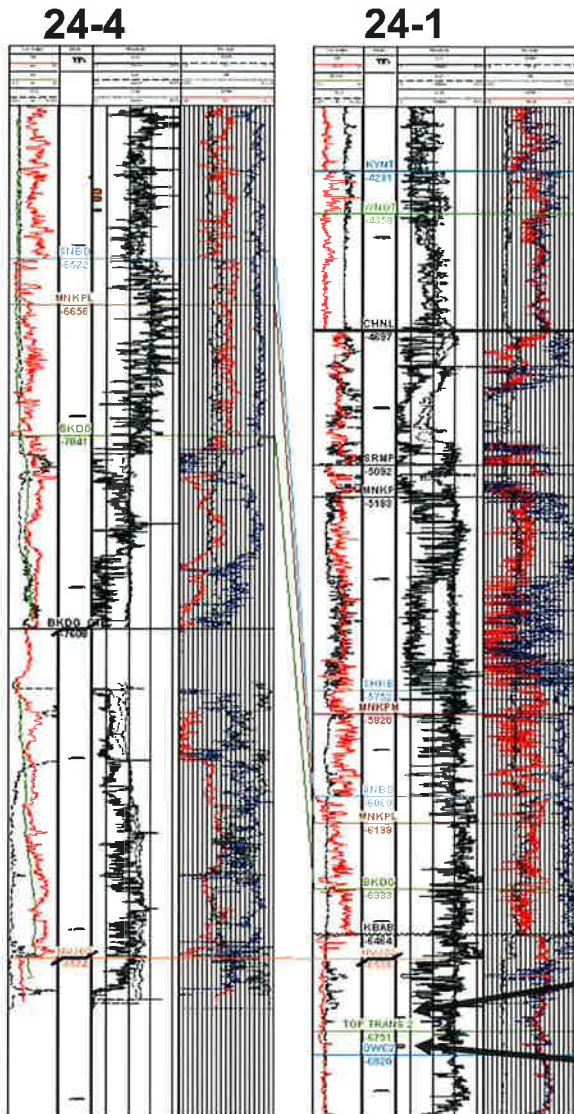
	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERSHORE PLAZA 55 CAMPBELL, N.W. GRAND RAPIDS, MI 49503-2616 (616) 459-1150
	<b>EXHIBIT I</b>
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01



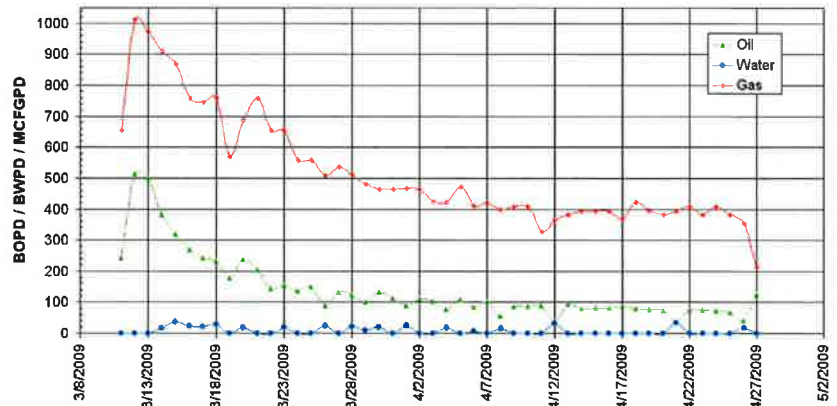
# Test Results Summary

## Navajo 2

- Navajo 2 in 24- 4 was encountered 2033' low to Navajo 2 in 24-1.
- Sinbad to Navajo 2 isopach thickness in 24-1 was 760'.
- Sinbad to Navajo 2 isopach thickness in 24-4 was 2052'.



AV 24-1 Navajo 2 Flow Test

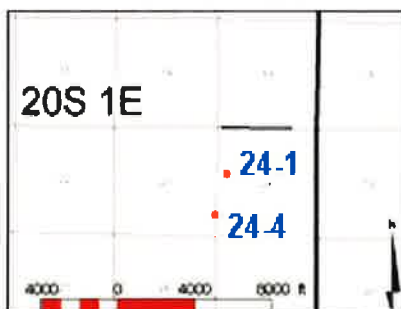


### Navajo2 Formation

Perforations: 12,290' - 12,316'  
 Stimulation: Fracture, 50000 lbs 30/50 mesh HSP  
 Final Rates: 73 BOPD, 0 BWPD, and 409 MCFD with FTP of 80 psi  
 Artificial Lift: Plunger  
 Producing Days: 55 days  
 Recovery: 9159 BO, 737 BW, and 32.2 MMCF (gross field estimates)

12,290 – 12,316: 47-day flow test after frac final rate: 73 BOPD, 0 BWPD, 409 MCFPD

12,373 – 12,380, 113 BO with no water or stable gas measurement



	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMPAU, N.W. GRAND RAPIDS, MI 49503-2616 (616) 458-1150
	<b>EXHIBIT <i>I2</i></b>
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

July 11, 2008

**FESCO, Ltd.**  
**1100 Fesco Ave. - Alice, Texas 78332**

**For:** Wolverine Gas and Oil Corporation  
One Riverfront Plaza  
55 Campau NW  
Grand Rapids, Michigan 49503-2616

**Sample:** Arapien Valley 24-1  
Gas Sales Line  
Spot Gas Sample @ 160 PSIG & 72 °F

Date Sampled: 5/11/2008

Job Number: 83388.001

**CHROMATOGRAPH EXTENDED ANALYSIS - SUMMATION REPORT**

COMPONENT	MOL%	GPM
Hydrogen Sulfide*	0.100	
Nitrogen	11.753	
Carbon Dioxide	8.128	
Methane	63.235	
Ethane	8.433	2.301
Propane	4.093	1.150
Isobutane	1.303	0.435
n-Butane	1.364	0.439
2-2 Dimethylpropane	0.020	0.008
Isopentane	0.594	0.222
n-Pentane	0.368	0.136
Hexanes	0.341	0.143
Heptanes Plus	<u>0.268</u>	<u>0.114</u>
Totals	100.000	4.948

**Computed Real Characteristics Of Heptanes Plus:**

Specific Gravity ----- 3.427 (Air=1)  
Molecular Weight ----- 98.93  
Gross Heating Value ----- 5286 BTU/CF

**Computed Real Characteristics Of Total Sample:**

Specific Gravity ----- 0.838 (Air=1)  
Compressibility (Z) ----- 0.9965  
Molecular Weight ----- 24.20  
Gross Heating Value  
Dry Basis ----- 1075 BTU/CF  
Saturated Basis ----- 1057 BTU/CF

\*Hydrogen Sulfide tested on location by: Stained Tube Method (GPA 2377)

Results: 62.89 Gr/100 CF, 1000.0 PPMV or 0.100 Mol %

Base Conditions: 15.025 PSI & 60 Deg F

Certified: FESCO, Ltd. - Alice, Texas

Analyst: CW  
Processor: RG  
Cylinder ID: G-1193

David Dannhaus 361-661-7015

**EXHIBIT J**

**Applied Technology Services**

1210 D Street, Rock Springs, WY 82901 (307) 352-7292

**Meter Name:** Providence Federal 24-4  
**Field Name:** COVENANT FIELD [sic, Providence Field]  
**Analyst:** MCMILLAN

**Meter Location #:** W244  
**Cylinder Pressure:** 0  
**Line Pressure:** 15  
**Report Date:** 06/24/2009 18:03  
**Sample Dates(s):** 06/24/2009 to 06/24/2009  
**Flowing Temp:** 75

**Gas Analysis by Chromatograph @14.73**

NAME	MOLE%	BTU	SG	GPM
Nitrogen	5.4866	0.0000	0.0531	0.0000
Methane	6.0871	61.6219	0.0337	0.0000
CO2	80.7442	0.0000	1.2269	0.0000
Ethane	1.8978	33.6631	0.0197	0.5074
H2S	0.0000	0.0000	0.0000	0.0000
Propane	1.8620	46.9582	0.0283	0.5128
i-Butane	0.4437	14.4621	0.0089	0.1452
n-Butane	1.1453	37.4496	0.0230	0.3610
i-Pentane	0.4985	19.9906	0.0124	0.1823
n-Pentane	0.5841	23.4690	0.0146	0.2117
Hexanes	0.6275	29.9123	0.0187	0.2580
Heptanes	0.3990	22.0062	0.0138	0.1840
Octanes	0.1821	11.4058	0.0072	0.0933
Nonanes	0.0421	2.9523	0.0019	0.0237
Ideal Total	100.0000	303.8909	1.4621	2.4793

**Gross BTU/Real Cu Ft. @ 60 deg F**

Pressure Base =	14.73	14.65	15.025
Dry =	305.7456	304.0750	311.9070
Saturated =	301.4516	299.7803	307.6153
Actual BTU =	305.7456	304.0750	311.9070
Real S.G. =	1.470456	1.470407	1.470636
Compressibility =	0.993934	0.993967	0.993812

**Gasoline Content**

Pressure Base =	14.73
Propane GPM =	0.5128
Butane GPM =	0.5061
14# Gasoline GPM =	1.0603
26# Gasoline GPM =	1.4865
Total GPM =	2.4793

**Sulfur Content**

Mercaptans ppm = N/A  
 H2S ppm = N/A

**Dewpoints**


H2O #/mmcf = N/A  
 Hydrocarbon = N/A  
 @ psig = N/A

Comments



# Hydrocarbons In-Place

- Hydrocarbons in-place calculation based on:
  - Log derived porosity and Sw
  - Structure mapped from well control and seismic interpretation
  - Navajo 1: CoreLab PVT analysis (Boi = 2.657)
    - Navajo 1 OOIP = 10,199,420 STB
  - Navajo 2: Fesco PVT analysis (Boi = 2.2)
    - Navajo 2 OOIP = 540,890 STB

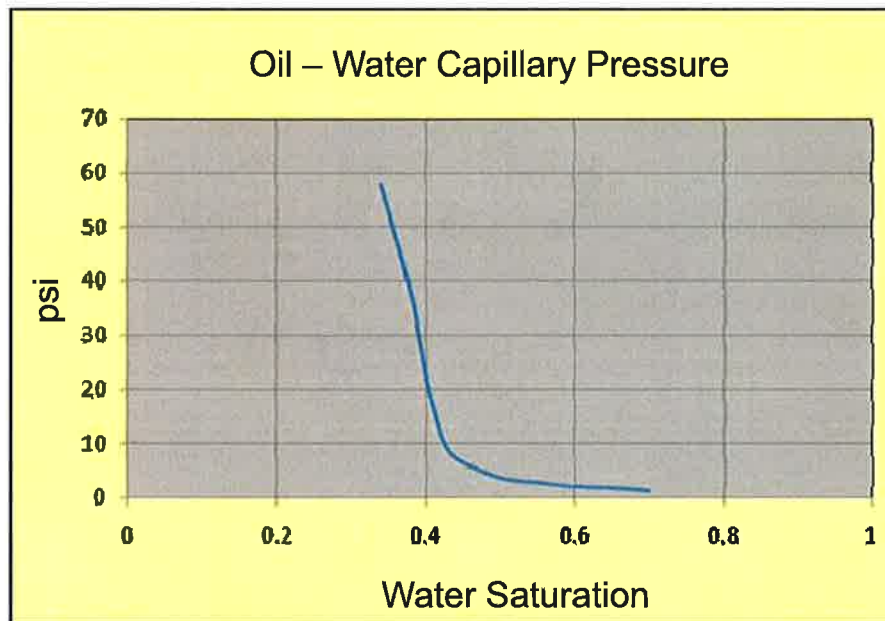
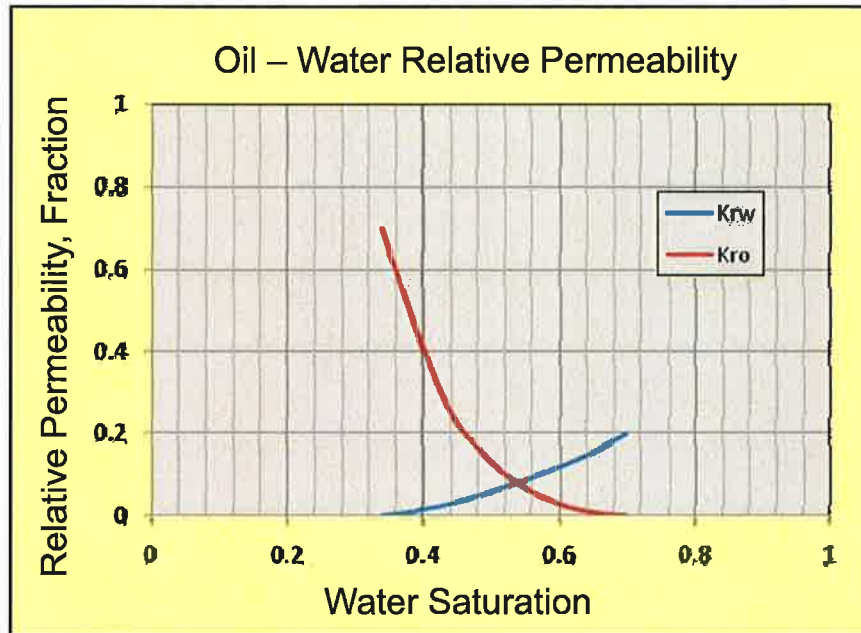
	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMPAU, N.W. GRAND RAPIDS, MI 49503-2810 (616) 458-1150
<b>EXHIBIT <u>K</u></b>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

# Objective

- First look model to sensitize recovery to volatile fluid properties and low permeability
- Course-gridded model, 3 layers and simple geology
- Investigate feasibility of field development and gas injection
- Results summarized are for optimistic scenario

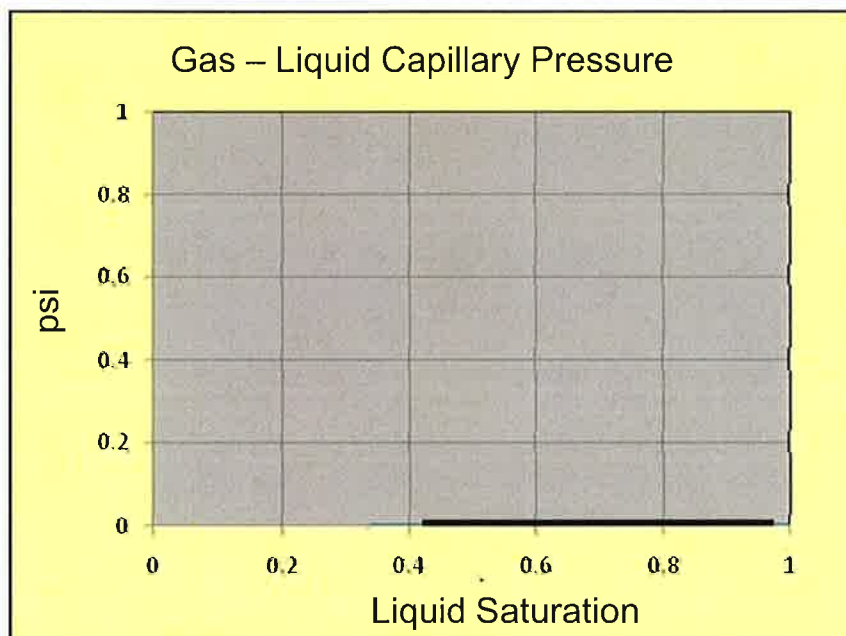
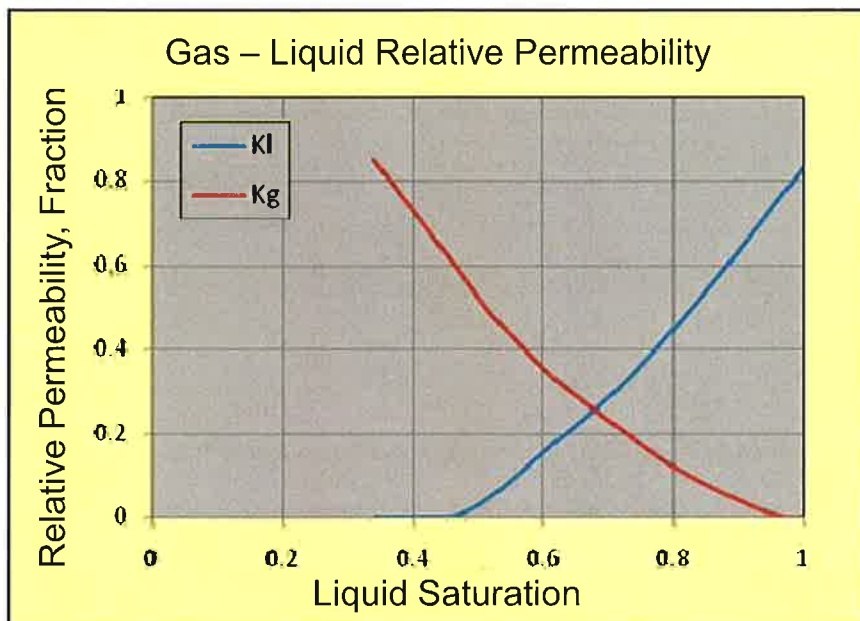
**EXHIBIT L**

# Oil – Water Relative Permeability



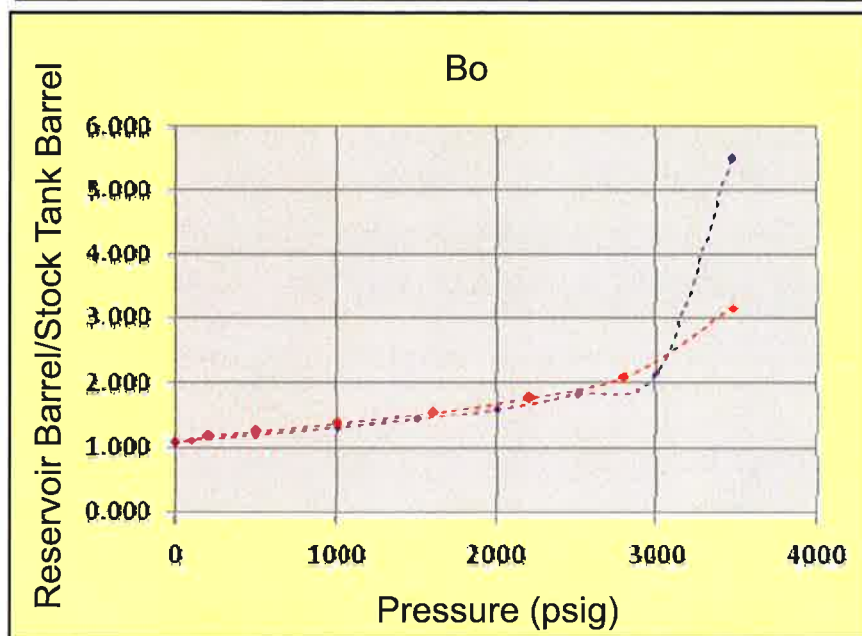
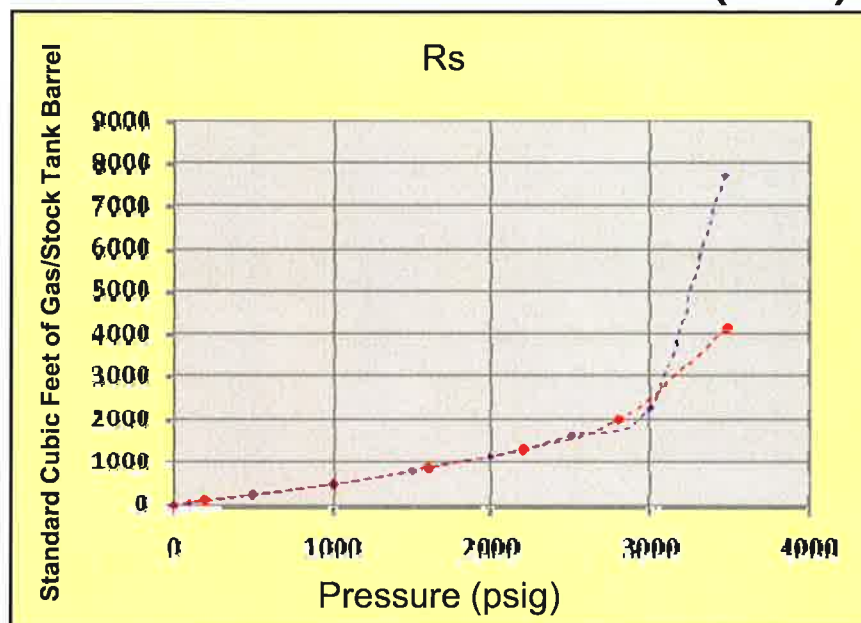
	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMPAU, N.W. GRAND RAPIDS, MI 49503-2616 (616) 456-1150
<b>EXHIBIT ML</b>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

# Gas – Liquid Relative Permeability



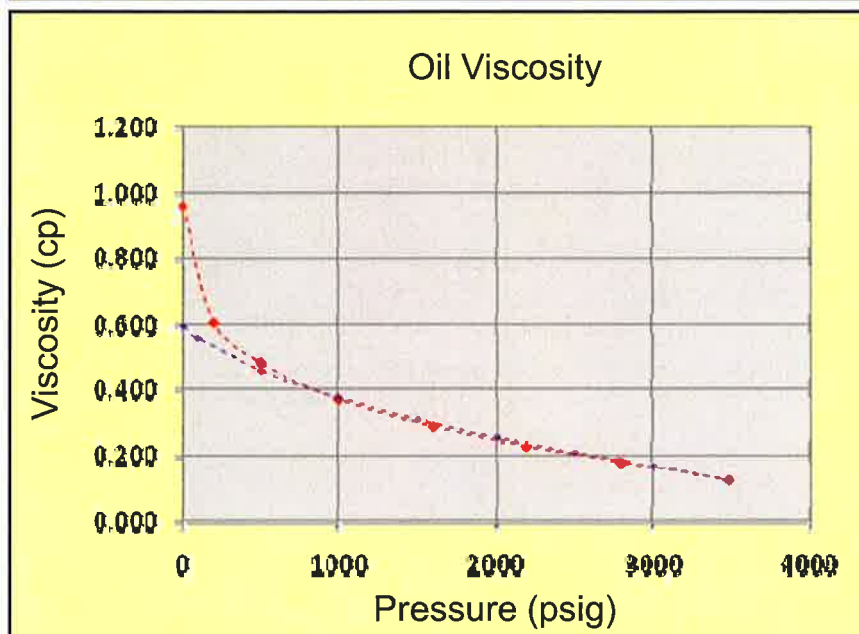
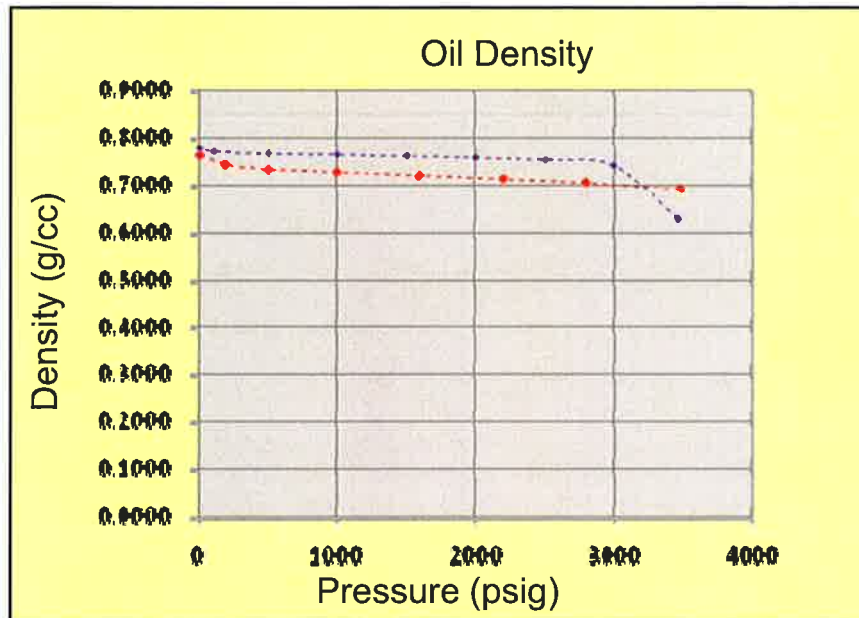
	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMPAU, N.W. GRAND RAPIDS, MI 49503-2616 (816) 458-1150
<b>EXHIBIT <u>m2</u></b>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01


# Solution GOR (Rs) and Formation Volume Factor (Bo)



	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMP AU, N.W. GRAND RAPIDS, MI 49503-2618 (616) 458-1150
<b>EXHIBIT <u>N</u></b>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

# Oil Density and Viscosity

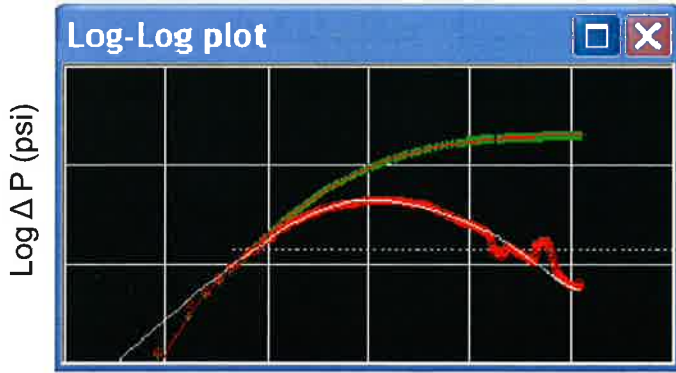


	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMP AU, N.W. GRAND RAPIDS, MI 49503-2616 (616) 458-1150
<b>EXHIBIT <u>Q</u></b>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

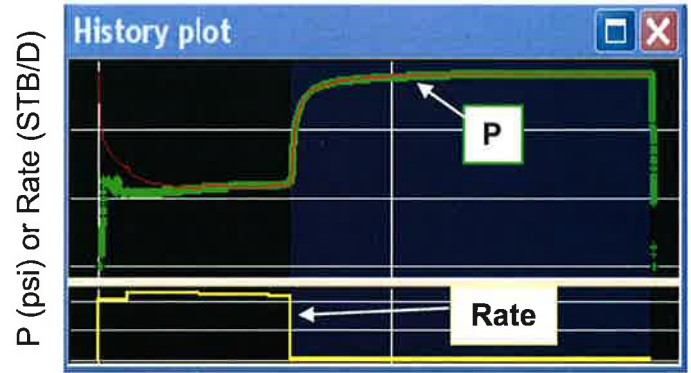


# Arapien Valley 24-1 PTA

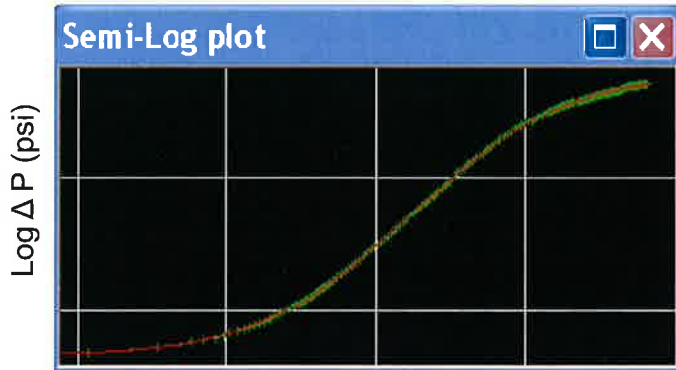
## $kh = 20.4$ md-ft



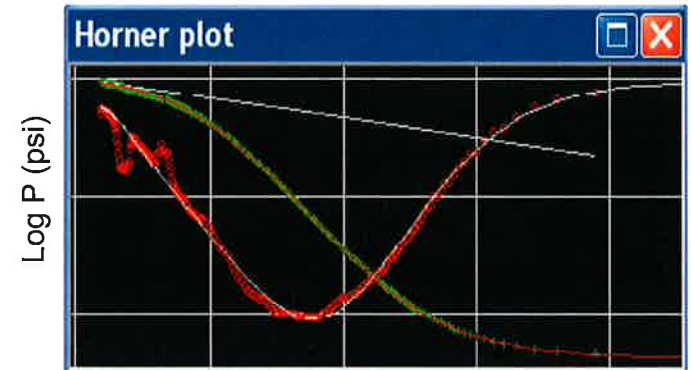
Log  $\Delta t$  (hrs)



Time (hrs)



Shut-in Time (hrs)




Horner Time (dim)

### Standard Oil Test

Well = Vertical  
Reservoir = Two layers  
Boundary = Infinite

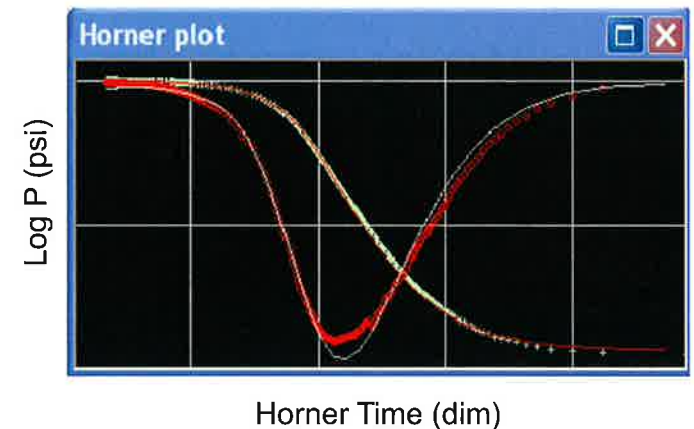
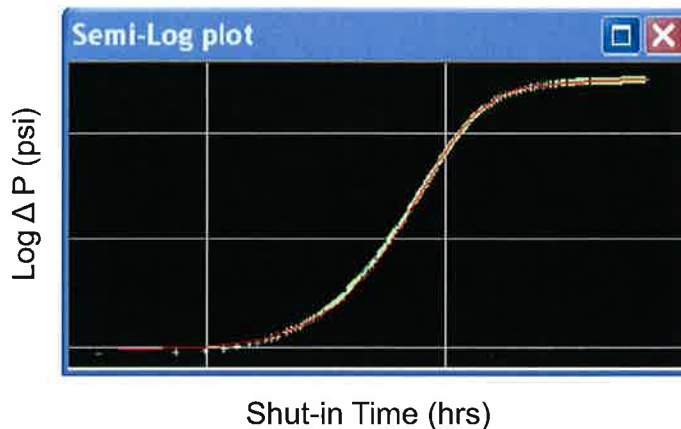
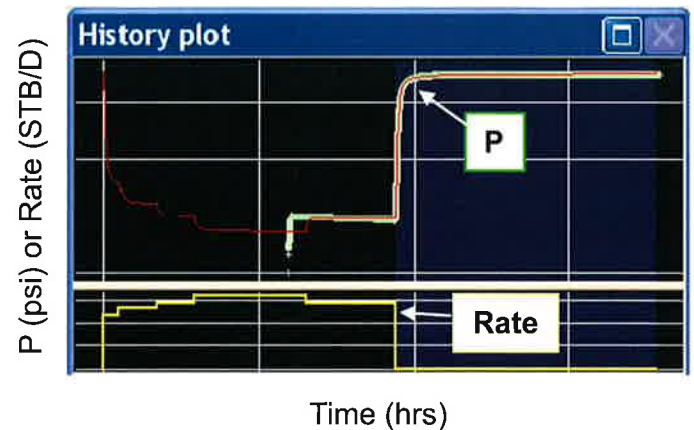
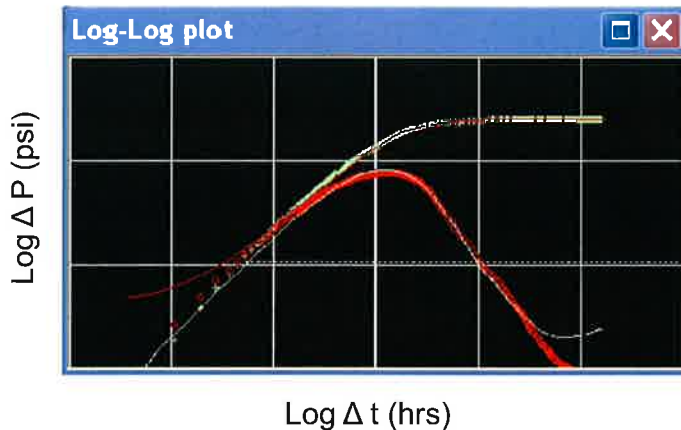
$P_i = 3522.04$  psia  
 $k.h = 20.4$  md.ft  
 $\Omega = 0.00702$   
 $\Lambda = 4.96E-7$   
 $Kappa = 0.12$   
 $Skin1 = -4.67$   
 $Skin2 = 6.56$   
 $C = 0.00448$  bbl/psi

- Points represent actual data; lines are the best fit model match
- Log-Log and Horner Plots show measured parameters in red and derivative curve in green

	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMP AU, N.W. GRAND RAPIDS, MI 49503-2618 (616) 458-1150
	<b>EXHIBIT PL</b>
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

# Providence Federal 24-4 PTA

## $kh = 53.5$ md-ft




### Standard Oil Test

Well = Vertical  
Reservoir = Two layers  
Boundary = Infinite


$P_i = 3550$  psia  
 $k.h = 53.5$  md.ft  
 $\Omega = 0.0158$   
 $\Lambda = 6.87E-7$   
 $Kappa = 0.869$   
 $Skin1 = 4.61$   
 $Skin2 = 7.85$   
 $C = 0.012$  bbl/psi

- Points represent actual data; lines are the best fit model match
- Log-Log and Horner Plots show measured parameters in red and derivative curve in white

	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMP AU, N.W. GRAND RAPIDS, MI 49503-2616 (616) 458-1150
	<b>EXHIBIT <u>P2</u></b>
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01


# Conclusions and Recommendations

- Recovery from existing two wells is estimated to 0.97 MMSTB (10-yr EUR)
- Recovery from one producer, one well converted to gas re-injection well, is estimated to 0.91 MMSTB (10-yr EUR)
- Additional drilling cannot be justified at this time
- Additional testing and subsequent modeling is recommended prior to determining an ultimate plan of depletion

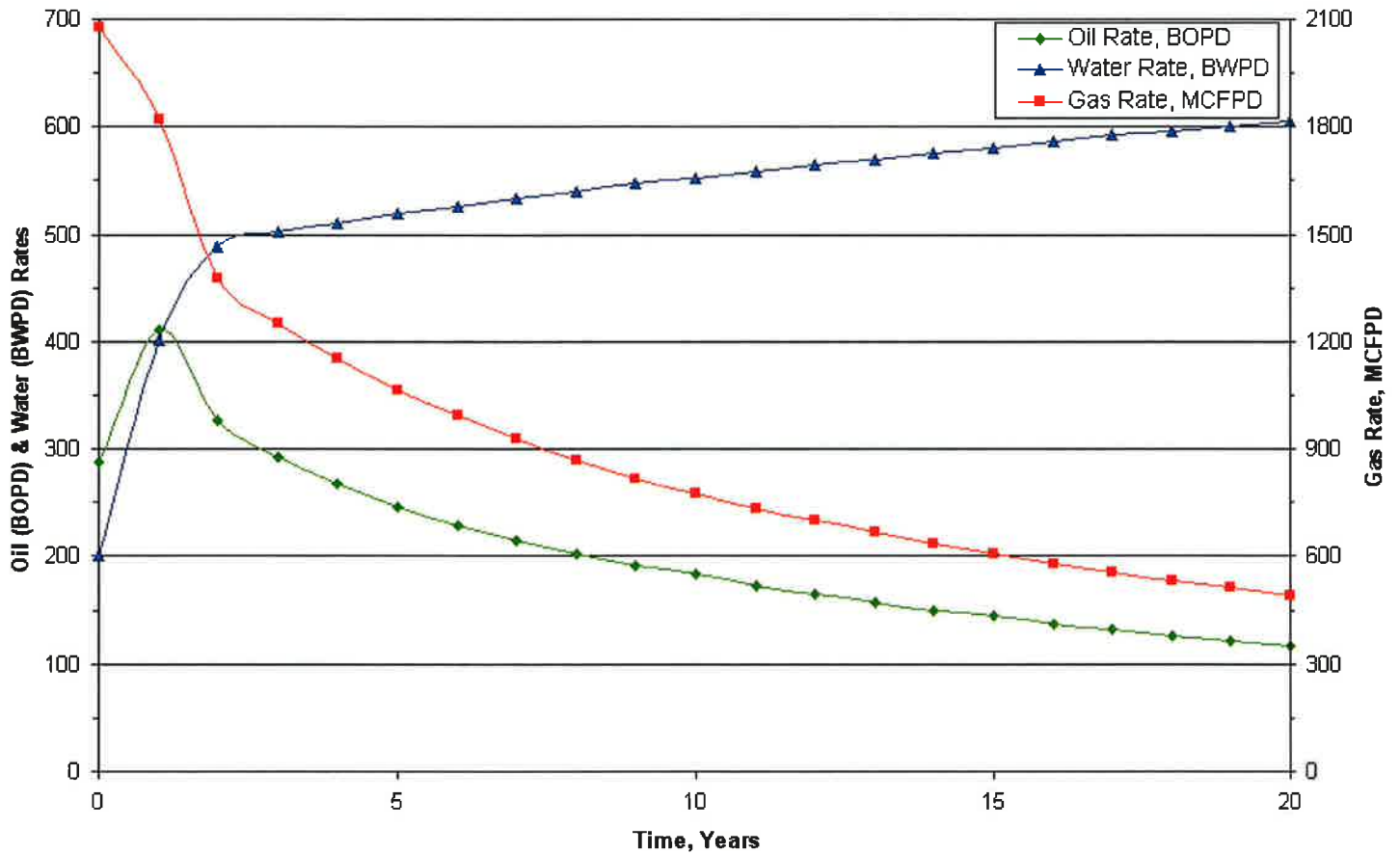
	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMP AU N W GRAND RAPIDS, MI 49503-2616 (616) 458-1150
<b>EXHIBIT <u>Q</u></b>	
<b>Date:</b> 1/15/2010	<b>Docket No. 2010-010; Cause No. 269-01</b>


# Basis of Evaluation

- **Production Forecast from modeling for two producing wells (“best-case”)**
- **Capital costs for drilling, completing, and equipping two wells**
- **Options considered**
  - **Option 1: Flaring and venting produced gas**
    - Produce existing 2 wells
  - **Option 2: Reinjection of gas**
    - Produce 1 well, convert 1 well to injection
  - **Option 3: Gas treatment, transportation, and sale**
    - Produce 2 existing wells

	<b>WOLVERINE GAS &amp; OIL</b> Company of Utah, LLC (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAM PAU, N.W. GRAND RAPIDS, MI 49503-2616 (616) 458-1150
<b>EXHIBIT <u>R</u></b>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01


# Providence Field: Two Well Model Forecast



	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMP AU, N.W. GRAND RAPIDS, MI 49503-2618 (616) 458-1150
<b>EXHIBIT <u>S</u></b>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

# Option 1: Flaring and Venting Produced Gas (Produce existing 2 wells)


- Require conventional oilfield handling methods: in-line heater, high-pressure separator, heater treater, crude oil tankage, flare knock-out, and flare unit
  - Engineer's estimate ~ \$1.4 million in new equipment
- Requires re-working wells to improve rates
- Capital costs for drilling, completing, and equipping wells: \$32.3 million
- Economic Analysis
  - Oil Price \$70/STB
  - OPEX: \$9500/month/well, plus water disposal
  - Discounted cashflow @ 10% : \$767,600

	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAM PAU, N.W. GRAND RAPIDS, MI 49503-2618 (616) 458-1150
<b>EXHIBIT <u>I</u></b>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01




# Option 2: Re-injection of Gas (1 Producing well & 1 gas injection well)

- Require conventional oilfield handling methods: in-line heater, high-pressure separator, heater treater, crude oil tankage, flare knock-out, and flare unit
  - Engineer's estimate ~ \$1.4 million in new equipment
- Requires additional capital investment for gas compression and dehydration
  - Engineers estimate: ~ \$1.0 million
- Requires re-working well to improve rates and conversion of well to injection (and subsequent loss of revenue from well)
- Capital costs for drilling, completing, and equipping wells, plus re-injection: \$33.3 million
- Economic Analysis
  - Oil Price \$70/STB
  - OPEX: \$9500/month/well, plus water disposal
  - Discounted cashflow @ 10% : negative

	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAMP AU, N.W. GRAND RAPIDS, MI 49503-2618 (616) 458-1150
EXHIBIT <u>U</u>	
Date: 1/15/2010	Docket No. 2010-010; Cause No. 269-01

## Option 3: Gas Treatment, Transportation, and Sale (2 producing wells)

- Require conventional oilfield handling methods: inline heater, high-pressure separator, heater treater, crude oil tankage, flare knock-out, and flare unit
  - Engineer's estimate ~ \$1.4 million in new equipment
- Requires additional capital investment for gas treatment plant to remove CO<sub>2</sub>, nitrogen, and H<sub>2</sub>S
  - Engineers estimate: ~ \$8.2 million (does not include polishing unit)
- Requires construction of 4.6-mile pipeline and metering station
- Requires re-working well to improve rates and conversion of well to injection
- Capital costs for drilling, completing, and equipping wells, treatment plant and pipeline: \$42.3 million
- Economic Analysis
  - Oil Price \$70/STB
  - OPEX: \$9500/month/well, plus water disposal
  - Discounted cashflow @ 10% : negative

	<b>WOLVERINE GAS &amp; OIL Company of Utah, LLC</b> (Operator) <i>Energy Exploration in Partnership with the Environment</i> ONE RIVERFRONT PLAZA 55 CAM PAU, N.W. GRAND RAPIDS, MI 49503-2618 (616) 458-1150
<b>EXHIBIT VI</b>	
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